

# PART 1

## GENERAL PROVISIONS

### SECTION 1—TERMS, DEFINITIONS, ABBREVIATIONS, UNITS OF MEASURE, AND SYMBOLS

**1-1 TERMS GENERAL** – Unless otherwise stated, the words *directed, required, permitted, ordered, instructed, designated, considered necessary, prescribed, approved, acceptable, satisfactory*, or words of like meaning, refer to actions, expressions, and prerogatives of the Engineer.

**1-2 TERMS AND DEFINITIONS:**

**Addendum**—Written or graphic instrument issued prior to the opening of Bids which clarifies, corrects, or changes the ~~bidding~~ or Contract Documents. The term “Addendum” shall include bulletins and all other types of written notices issued to potential bidders prior to opening of the Bids.

**Agency**—The legal entity for which the Work is being performed.

**Agreed Price**—The cost for new or unforeseen work, or for adjustments in the Contract Unit Price for changes in the character of the work as specified in 3-2.4, established by mutual agreement between the Contractor and the Agency.

**Agreement**—See Contract.

**Assessment Act Contract**—A Contract financed by special assessments authorized under a State Act or procedural ordinance of a City or County.

**Base**—A layer of specified material of planned thickness placed immediately below the pavement or surfacing.

**Bid**—The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work.

**Bidder**—Any individual, firm, partnership, corporation, or combination thereof, submitting a Bid for the Work, acting directly or through a duly authorized representative.

**Board**—The officer or body constituting the awarding authority of the Agency.

**Bond**—Bid, performance, ~~and~~ or payment bond, or other instrument of security.

**Caltrans**— The State of California Department of Transportation.

**Cash Contract**—A Contract financed by means other than special assessments.

**Change Order**—A written order to the Contractor signed by the Agency directing an addition, deletion, or revision in the Work, or an adjustment in the Contract Price or the Contract time issued after the effective date of the Contract. A Change Order may or may not also be signed by the Contractor.

**Code**—The terms *Government Code, Labor Code*, etc., refer to codes of the State of California.

**Contract**—The written agreement between the Agency and the Contractor covering the Work.

**Contract Documents** <sup>3/4</sup> Including but not limited to; the Contract, any Addendum (which pertain to the Contract Documents), Notice Inviting Bids, Instructions to Bidders; Bid (including

documentation accompanying the Bid and any post-bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Contract, the Bonds, ~~the general conditions,~~ permits from ~~other~~ jurisdictional regulatory agencies, the Special Provisions, the Plans, Standard Plans, Standard Specifications, Reference Specifications, and all Modifications issued after the execution of the Contract.

**Contractor**—The individual, partnership, corporation, joint venture, or other legal entity having a Contract with the Agency to perform the Work. In the case of work being done under a permit issued by the Agency, the permittee shall be construed to be the Contractor. The term “prime contractor” shall mean the Contractor.

**Contract Price**—The total amount of money for which the Contract is awarded.

**Contract Unit Price**—The amount stated in the Bid for a single unit of an item of work.

**County Sealer**—The Sealer of Weights and Measures of the county in which the Contract is ~~let~~ awarded.

**Days**—Days shall mean consecutive ~~calendar's~~ calendar days unless otherwise specified in the Special Provisions.

Disputed Work—Work in which the Agency and the Contractor are in disagreement.

**Electrolier**—Street light assembly complete, including foundation, standard, ~~luminaire~~ mast arm, luminaire, etc.

Extra Work—New or unforeseen work not covered by a Contract Unit Price or Stipulated Unit Price.

**Engineer**—The Chief Engineer of the Agency, Director of Public Works, or other person designated by the Board, acting either directly or through authorized agents.

~~**Geotextile**—Synthetic fiber used in civil engineering applications, serving the primary functions of separation and filtration.~~

**House Connection Sewer**—A sewer, within a public street or right-of-way, proposed to connect any parcel, lot, or part of a lot with a mainline sewer.

~~**House Sewer**—A sewer, wholly within private property, proposed to connect any building to a house connection sewer.~~

**Luminaire**—The lamp housing including the optical and socket assemblies (and ballast if so specified).

**Luminaire Mast Arm**—The structural member, or bracket, ~~or mast arm~~, which, when mounted on ~~the~~ a Standard, supports the luminaire.

**Modification**—Includes Change Orders and Supplemental Agreements. A Modification may only be issued after the effective date of the Contract.

**Notice of Award**—The written notice by the Agency to the successful Bidder stating that upon its compliance ~~by it~~ with the required conditions, the Agency will execute the Contract.

**Notice to Proceed**—A written notice given by the Agency to the Contractor fixing the date on which the Contract time will start.

**Person**—Any individual, firm, association, partnership, corporation, trust, joint venture, or other legal entity.

**Plans**—The drawings, profiles, cross sections, Standard Plans, working drawings, and supplemental shop drawings, or reproductions thereof, approved by the Engineer, which show the location, character, dimensions, or details of the Work.

**Private Contract**—Work subject to Agency inspection, control, and approval, involving private funds, not administered by the Agency.

**Proposal**—See Bid.

**Reference Specifications**—Those bulletins, standards, rules, methods of analysis or ~~test~~ testing, codes, and specifications of other agencies, engineering societies, or industrial associations referred to in the Contract Documents. These shall refer to the latest edition, including amendments in effect and published at the time of advertising the ~~project~~ Contract or issuing the permit, unless specifically referred to by edition, volume, or date.

**Roadway**—The portion of a street reserved for vehicular use.

**Service Connection**—~~Service connections are~~ All or any portion of the conduit, cable, or duct, ~~including~~ or meter, between a utility distribution line and an individual consumer.

**Sewer**—Any conduit intended for the reception and transfer of sewage and fluid industrial waste.

**Special Provisions**—Additions and revisions to the Standard Specifications setting forth conditions and requirements peculiar to the Work.

**Specifications**—Standard Specifications, Reference Specifications, Special Provisions, and specifications in Change Orders or Supplemental Agreements between the Contractor and the Board.

**Standard**—The shaft or pole used to support street lighting luminaires, traffic signal heads, mast arms, etc.

**Standard Plans**—Details of standard structures, devices, or instructions referred to on the Plans or in the Specifications by title or number.

**Standard Specifications**—The Standard Specifications for Public Works Construction (SSPWC), the “Greenbook”.

**State**—State of California.

**Stipulated Unit Price**—Unit prices established by the Agency in the Contract Documents.

**Storm Drain**—Any conduit and appurtenances intended for the reception and transfer of storm water.

**Street**—Any road, highway, parkway, freeway, alley, walk, or way.

**Subbase**—A layer of specified material of planned thickness between a the base and the subgrade.

**Subcontractor**—An individual, firm, or corporation having a direct contract with the Contractor or with any other Subcontractor for the performance of a part of the Work.

**Subgrade**—For roadways, that portion ~~of the roadbed~~ on which pavement, surfacing, base, subbase, or a layer of other material is placed. For structures, the soil prepared to support a structure.

**Supervision**—Supervision, where used to indicate supervision by the Engineer, shall mean the performance of obligations, and the exercise of rights, specifically imposed upon and granted to the Agency in becoming a party to the Contract. Except as specifically stated herein, supervision by the Agency shall not mean active and direct superintendence of details of the Work.

**Supplemental Agreement**—A written amendment of the Contract Documents signed by both parties the Agency and the Contractor.

**Surety**—Any individual, firm, or corporation, bound with and for the Contractor for the acceptable performance, execution, and completion of the Work, and for the satisfaction of all obligations incurred.

**Tonne**— Also referred to as “metric ton”. Represents a unit of measure in the International System of Units equal to 1,000 kilograms.

**Utility**—Tracks, overhead or underground wires, pipeline, conduits, ducts, or structures, sewers, or storm drains owned, operated, or maintained in or across a public right of way or private easement.

**Work**—That which is proposed to be constructed or done under the Contract or permit, including the furnishing of all labor, materials, equipment, and services.

**1-3 ABBREVIATIONS:**

**1-3.1 General.** The abbreviations herein, together with others in general use, are applicable to these Standard Specifications and to project Plans, the Special Provisions, or other Contract Documents. Additional abbreviations shall be as specified on the Plans or in the Special Provisions.

All abbreviations and symbols used on Plans for structural steel construction shall conform to those given by the “Manual of Steel Construction” published by the American Institute of Steel Construction, Inc.

**1-3.2 Common Usage:**

<u>Abbreviation</u>	<u>Word or Words</u>	<u>C/C.....Center to center</u>
ABAN.....	Abandon	CAB.....Crushed <u>A</u> ggregate <u>B</u> ase
ABAND.....	Abandoned	CAL/OSHA.....California Occupational
ABS.....	Acrylonitrile - Butadiene - Styrene	Safety and Health Administration
AC.....	Asphalt Concrete	CalTrans.....California Department of Transportation
ACP.....	Asbestos cement pipe	<u>CAPA.....Corrugated Aluminum Pipe Arch</u>
ACWS.....	Asphalt concrete wearing surface	CAP.....Corrugated aluminum pipe
ALT.....	Alternate	CB.....Catch Basin
<u>APC.....Air Placed Concrete</u>		Cb.....Curb
<u>ARHM.....Asphalt Rubber Hot Mix</u>		CBP.....Catch Basin Connection Pipe
<u>ARAM.....Asphalt Rubber Aggregate Membrane</u>		CBR.....California Bearing Ratio
AMER STD.....	American Standard	<u>CCFRPM.....Centrifugally Cast Fiberglass Reinforced Plastic Mortar</u>
AWG.....	American Wire Gage (nonferrous wire)	CCR.....California Code of Regulations
BC.....	Beginning of curve	CCTV.....Closed Circuit TV
BCR.....	Beginning of curb return	CF.....Curb face
BDRY.....	Boundary	CF.....Cubic foot
BF.....	Bottom of footing	C&G.....Curb and gutter
BM.....	Bench mark	CFR.....Code of Federal Regulations
<u>BMPs.....Best Management Practices</u>		<u>CHDPE.....Corrugated High Density Polyethylene</u>
BVC.....	Beginning of vertical curve	CIP.....Cast iron pipe
B/W.....	Back of wall	

<u>CIPCP.....Cast-In-Place Concrete Pipe</u>	EXP JT.....Expansion joint
CIPP..... <u>Cured</u> Cast In Place Pipe	EXST.....Existing
CL.....Clearance, center line	F.....Fahrenheit
CLF.....Chain link fence	F&C.....Frame and cover
<u>CLSM.....Controlled Low Strength Material</u>	F&I.....Furnish and install
CMB.....Crushed <u>M</u> iscellaneous <u>B</u> ase	FAB.....Fabricate
CMC.....Cement mortar coated	FAS.....Flashing arrow sign
CML.....Cement mortar lined	FD.....Floor drain
CO.....Cleanout (Sewer)	FDN.....Foundation
COL.....Column	FED SPEC.....Federal Specification
CONC.....Concrete	FG.....Finished grade
CONN.....Connection	FH.....Fire hydrant
CONST.....Construct, Construction	FL.....Flow line
COORD.....Coordinate	FS.....Finished surface
<u>CRM.....Crumb Rubber Modifier</u>	FT-LB.....Foot-pound
CSP.....Corrugated steel pipe	FTG.....Footing
CTB.....Cement treated base	FW.....Face of wall
<u>CQS.....Cationic Quick-Setting</u>	GA.....Gauge
<u>CRS.....Cationic Rapid-Setting</u>	GALV.....Galvanized
<u>CSEP.....Confined Space Entry Plan</u>	<u>GG.....Gap-Graded</u>
<u>CSPA.....Corrugated Steel Pipe Arch</u>	GIP.....Galvanized iron pipe
<u>CSP.....Corrugated Steel Pipe</u>	GL.....Ground line or grade line
<u>CSS.....Cationic Slow-Setting</u>	GM.....Gas meter
<u>CT.....California Test</u>	GP.....Guy pole
CV.....Check valve	GR.....Grade
CY.....Cubic yard	GRTG.....Grating
D.....Load of pipe	GSP.....Galvanized steel pipe
dB.....Decibels	H.....High or height
DBL.....Double	HB.....Hose bib
DF.....Douglas fir	HC.....House connection
DIA.....Diameter	<u>HDPE.....High Density Polyethylene</u>
DIP.....Ductile iron pipe	HDWL.....Headwall
DL.....Dead load	HGL.....Hydraulic grade line
DT.....Drain Tile	HORIZ.....Horizontal
DWG.....Drawing	HP.....Horsepower
DWY.....Driveway	HPG.....High pressure gas
DWY APPR.....Driveway approach	HPS.....High pressure sodium (Light)
EA.....Each	<u>HRWRA.....High Range Water Reducing Admixture</u>
EC.....End of curve	HYDR.....Hydraulic
ECR.....End of curb return	ID.....Inside diameter
EF.....Each face	INCL.....Including
EG.....Edge of gutter	INSP.....Inspection
EGL.....Energy grade line	INV.....Invert
El.....Elevation	IP.....Iron pipe
ELC.....Electrolier lighting conduit	JC.....Junction chamber
ELT.....Extra long ton of slurry	JCT.....Junction
ENGR.....Engineer, Engineering	JS.....Junction structure
EP.....Edge of pavement	JT.....Joint
ESMT.....Easement	L.....Length
ETB.....Emulsion treated base	LAB.....Laboratory
EVC.....End of vertical curb	LAT.....Lateral
EXC.....Excavation	LB.....Pound

LD.....	Local depression	PSI.....	Pounds per square inch
<u>LED.....</u>	<u>Light Emitting Diode</u>	PT.....	Point of tangency
LF.....	Linear foot	PVC.....	Polyvinyl chloride
LH.....	Lamp hole	PVMT.....	Pavement
LL.....	Live load	PVT R/W.....	Private right-of-way
LOL.....	Layout line	Q.....	Rate of flow in cubic feet per second
LONG.....	Longitudinal	QUAD.....	Quadrangle, Quadrant
LP.....	Lamp post	R.....	<u>Resistance value</u> Radius
LPS.....	Low pressure sodium (Light)	<u>RA.....</u>	<u>Reclaimed Aggregates</u>
LS.....	Lump sum	<u>RC.....</u>	<u>Rapid Curing</u>
LTS.....	Lime treated soil	R&O.....	Rock and oil
MAINT.....	Maintenance	R/W.....	Right of way
MAX <u>Max.</u> .....	Maximum	RA.....	<u>Reclaimed Aggregates</u> Recycling agent
<u>MC.....</u>	<u>Medium Curing</u>	RAC.....	Recycled asphalt concrete
MCR.....	Middle of curb return	RAP.....	Reclaimed asphalt pavement
MEAS.....	Measure	RBAC.....	Rubberized asphalt concrete
MH.....	Manhole, maintenance hole	RC.....	Rapid curing ... Reinforced concrete
MIL SPEC.....	Military specification	RCB.....	Reinforced concrete box
MISC.....	Miscellaneous	RCE.....	Registered civil engineer
MOD.....	Modified, modify	RCP.....	Reinforced concrete pipe
MON.....	Monument	RCV.....	Remote control valve
MULT.....	Multiple	REF.....	Reference
<u>Min.....</u>	<u>Minimum</u>	REINF.....	Reinforced or reinforcement
<u>MUTCD.....</u>	<u>Manual on Uniform Traffic Control Devices</u>	RES.....	Reservoir
MVL.....	Mercury vapor light	RGE.....	Registered geotechnical engineer
<u>N/A.....</u>	<u>Not Applicable</u>	<u>RPPCC.....</u>	<u>Reclaimed Plastic Portland Cement Concrete</u>
NRCP.....	Nonreinforced concrete pipe	RR.....	Railroad
OBS.....	Obsolete	RSE.....	Registered structural engineer
OC.....	On center	RTE.....	Registered traffic engineer
OD.....	Outside diameter	<u>RTFO.....</u>	<u>Rolling Thin Film Oven</u>
<u>O.D.....</u>	<u>Outside Diameter</u>	<u>RW.....</u>	<u>Reclaimed Water</u>
OE.....	Outer edge	S.....	<u>Hveem stability</u> Slope
OPP.....	Opposite	<u>SAPPA.....</u>	<u>Structural Aluminum Plate Pipe Arch</u>
ORIG.....	Original	<u>SAPP.....</u>	<u>Structural Aluminum Plate Pipe</u>
<u>PAV.....</u>	<u>Pressure Aging Vessel</u>	SCCP.....	Steel cylinder concrete pipe
PB.....	Pull box	<u>SC.....</u>	<u>Slow Curing</u>
PC.....	Point of curvature	<u>SCMs.....</u>	<u>Supplementary Cementitious Materials</u>
PCC.....	Portland cement concrete or point of compound curvature	SD.....	Storm drain
PCVC.....	Point of compound vertical curve	SDR.....	Standard thermoplastic pipe dimension ratio (ratio of pipe O.D. to minimum wall thickness)
PE.....	Polyethylene	SE.....	Sand Equivalent
<u>PG.....</u>	<u>Performance Graded</u>	SEC.....	Section
PI.....	Point of intersection	SF.....	Square foot
PL.....	Property line	<u>SG.....</u>	<u>Specific Gravity</u>
<u>PLI.....</u>	<u>Pounds per linear inch</u>	SI.....	International System of Units (Metric)
PMB.....	Processed <u>M</u> iscellaneous <u>B</u> ase	SPEC.....	Specifications
POC.....	Point on curve	SPPWC.....	Standard Plans for Public Works Construction
POT.....	Point on tangent	SR.....	Standard ratio
PP.....	Power pole	SS.....	<u>Slow-Setting</u> Sanitary sewer
PRC.....	Point of reverse curve	SSB.....	Select sub-base
PRVC.....	Point of reverse vertical curve	<u>SSPPA.....</u>	<u>Structural Steel Plate Pipe Arch</u>
		<u>SSPP.....</u>	<u>Structural Steel Plate Pipe</u>

SSPWC.....	Standard Specifications for Public Works Construction	TW.....	Top of wall
ST HWY.....	State highway	TYP.....	Typical
STA.....	Station	<u>TRMAC.....Tire Rubber Modified Asphalt Concrete</u>	
STD.....	Standard	<u>TTC.....Temporary Traffic Control</u>	
STR.....	Straight	<u>U.S.C.....United States Code</u>	
STR GR.....	Straight grade	<u>U.S.....United States</u>	
STRUC.....	Structural/Structure	USA.....	Underground Service Alert
SW.....	Sidewalk	VAR.....	Varies, Variable
SWD.....	Sidewalk drain	VB.....	Valve box
<u>SWPPP.....Storm Water Pollution Prevention Plan</u>		VC.....	Vertical curve
SY.....	Square yard	VCP.....	Vitrified clay pipe
TAN.....	Tangent	VERT.....	Vertical
TC.....	Top of curb	VOL.....	Volume
<u>TCP.....Traffic Control Plan</u>		<u>VTCSH.....Vehicle Traffic Controls Signal Heads</u>	
TEL.....	Telephone	<u>WTAT.....Wet Track Abrasion Test</u>	
TF.....	Top of footing	W.....	Wider or width
TOPO.....	Topography	WATCH.....	Work Area Traffic Control Handbook
TR.....	Tract	WI.....	Wrought iron
TRANS.....	Transition	WM.....	Water meter
TS.....	Traffic signal or transition structure	WPJ.....	Weakened plane joint
TSC.....	Traffic signal conduit	XCONN.....	Cross connection
TSS.....	Traffic signal standard	XSEC.....	Cross section
		<u>x.....by</u>	

**1-3.3 Institutions .**

**Abbreviation..... Word or Words**

AASHTO .....	American Association of State Highway and Transportation Officials
AISC .....	American Institute of Steel Construction
ANSI.....	American National Standards Institute
<del>API.....</del>	<del>American Petroleum Institute</del>
AREA.....	American Railway Engineering Association
ASTM .....	American Society for Testing and Materials
AWPA.....	American Wood Preservers Association
AWS .....	American Welding Society
AWWA.....	American Water Works Association
<u>EIA.....</u>	<u>Electronic Industries Alliance</u>
<u>EPA .....</u>	<u>Environmental Protection Agency</u>
<u>ETL.....</u>	<u>ETL Testing Laboratories</u>
GRI.....	Geosynthetic Research Institute
<u>IEEE.....</u>	<u>Institute of Electrical and Electronics Engineers</u>
<u>IMSA.....</u>	<u>International Municipal Signal Association</u>

<u>ITE</u> .....	<u>Institute of Traffic Transportation Engineers</u>
NEMA.....	National Electrical Manufacturers Assn. <u>Association</u>
<u>NOAA</u> .....	<u>National Oceanic and Atmospheric Administration (Dept. of Commerce)</u>
<u>REA</u> .....	<u>Rural Electrification Administration</u>
<u>RUS</u> .....	<u>Rural Utilities Service</u>
UL.....	Underwriters’ Laboratories Inc.
USGS.....	United States Geological Survey

**1-4 UNITS OF MEASURE.**

**1-4.1 General.** The U.S. Standard Measures, ~~International System of Units, also referred to as SI or the metric system~~ also referred to as the U.S. Customary System, is the principal measurement system in these Specifications and shall be used for construction, unless otherwise stated specified in the ~~Contract Documents~~ Special Provisions. ~~U.S. Standard Measures, also called U.S. Customary System, The International System of Units, also referred to as SI or the metric system, are is~~ included in parenthesis. ~~SI units and U.S. Standard Measures~~ units in parenthesis may or may not be exactly equivalent to the SI units in parenthesis. If ~~U.S. Standard Measures are~~ SI is specified for use in the Contract Documents, then all values used for construction shall be ~~U.S. Standard Measures~~ the SI units shown in parenthesis. ~~However, Certain material specifications and test requirements contained herein use SI units specifically and conversions to U.S. Standard Measures have not been included in these those circumstances. When U.S. Standard Measures are not included in parenthesis, then the SI units shall control.~~

Reference is also made to ASTM E 380 for definitions of various units of the SI system and a more extensive set of conversion factors.

**1-4.2 Units of Measure and Their Abbreviations.**

<u>U.S. Customary Unit</u> <u>(Abbreviations)</u>	<u>Equal To</u>	<u>SI Unit</u> <u>(Abbreviations)</u>
1 mil (= 0.001 <del>in</del> <u>inch</u> ).....		25.4 micrometer (µm)
1 inch ( <del>in</del> ).....		25.4 millimeter ( mm)
1 inch ( <del>in</del> ).....		2.54 centimeter (cm)
1 foot (ft.).....		0.3048 meter (m)
1 yard (yd.).....		0.9144 meter (m)
1 mile (mi).....		1.6093 kilometer (km)
1 square foot (ft <sup>2</sup> ).....		0.0929 square meter (m <sup>2</sup> )
1 square yard (yd <sup>2</sup> ).....		0.8361 square meter (m <sup>2</sup> )
1 cubic foot (ft <sup>3</sup> ).....		0.0283 cubic meter (m <sup>3</sup> )
1 cubic yard (yd <sup>3</sup> ).....		0.7646 cubic meter (m <sup>3</sup> )
1 acre.....		0.4047 hectare (ha)
1 U.S. gallon (gal.).....		3.7854 Liter (L)
1 fluid ounce (fl. oz.).....		29.5735 milliliter (mL)
1 pound mass (lb.) (avoirdupois).....		0.4536 kilogram (kg)
1 ounce mass (oz.).....		0.02835 kilogram (kg)

1 Ton (= 2000 lb. avoirdupois).....	0.9072 Tonne (= 907 kg)
1 Poise.....	0.1 pascal · second (Pa · s)
1 centistoke (cs) .....	1 square millimeters per second ( mm <sup>2</sup> /s)
1 pound force (lbf).....	4.4482 Newton (N)
1 pounds per square inch (psi) .....	6.8948 Kilopascal ( kPa)
1 pound force per foot (lbf/ft).....	1.4594 Newton per meter (N/m)
1 foot-pound force (ft-lbf).....	1.3558 Joules (J)
1 foot-pound force per second ([ft-lbf]/s).....	1.3558 Watt (W)
1 part per million (ppm) .....	1 milligram/liter (mg/L)

**Temperature Units and Abbreviations**

Degree Fahrenheit (°F):

°F = (1.8 x °C) + 32

Degree Celsius (°C):

°C = (°F – 32)/1.8

**SI Units (abbreviation) Commonly Used in Both Systems**

- 1 Ampere (A)
- 1 Volt (V)
- 1 Candela (cd)
- 1 Lumen (lm)
- 1 second (s)

**Common Metric Prefixes**

kilo (k).....	10 <sup>3</sup>
centi (c).....	10 <sup>-2</sup>
milli (m).....	10 <sup>-3</sup>
micro (µ) .....	10 <sup>-6</sup>
nano (n).....	10 <sup>-9</sup>
pico (p).....	10 <sup>-12</sup>

**1-5 SYMBOLS.**

~~D~~ ..... Delta, the central angle or angle between tangents

~~∠~~ ..... Angle

% ..... Percent

' ..... Feet or minutes

” ..... Inches or seconds

<sup>1</sup> ..... Number

/ ..... per or (between words)

° ..... Degree

~~x~~ ..... Times

~~PL~~ ..... Property line

~~CL~~ ..... Centerline

~~SL~~ ..... Survey line or station line

## SECTION 2 - SCOPE AND CONTROL OF WORK

**2-1 AWARD AND EXECUTION OF THE CONTRACT.** Award and execution of the Contract will shall be as provided for in the Specifications Special Provisions, Instructions to Bidders, or Notice Advertising for Inviting Bids.

**2-2 ASSIGNMENT.** No Contract or portion thereof may be assigned without consent of the Board, except that the Contractor may assign money due or which will accrue to it under the Contract. If given written notice, such assignment will be recognized by the Board to the extent permitted by law. Any assignment of money shall be subject to all proper withholdings in favor of the Agency and to all deductions provided for in the Contract. All money withheld, whether assigned or not, shall be subject to being used by the Agency for completion of the Work, should the Contractor be in default.

### 2-3 SUBCONTRACTS.

**2-3.1 General.** Each Bidder shall comply with ~~the~~ Chapter 4 of the Public Contract Code including Sections 4100 through 4113. ~~The following excerpts or summaries of some of the requirements of this Chapter are included below for information:~~

The Bidder shall set forth in the Bid, ~~as provided in~~ pursuant to 4104:

“(a) The name and location of the place of business of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement, or a subcontractor licensed by the State of California who, under subcontract to the prime contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of 1 percent of the prime contractor’s total bid, or, in the case of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of 1 percent of the prime contractor’s total bid or ten thousand dollars (\$10,000), whichever is greater.”

“(b) The portion of the work which will be done by each such subcontractor under this act. The prime contractor shall list only one subcontractor for each such portion as is defined by the prime contractor in his or her bid.”

If the Contractor fails to specify a Subcontractor, or specifies more than one Subcontractor for the same portion of the Work to be performed under the Contract (in excess of one-half of 1 percent of the Contractor’s total Bid), the Contractor shall be qualified to perform that portion itself, and shall perform that portion itself, except as otherwise provided in the Code.

~~As provided in~~ Pursuant to Section 4107, no Contractor whose Bid is accepted shall substitute any person as a Subcontractor in place of ~~the~~ a Subcontractor listed in the ~~original~~ Bid, except for the causes and by the procedures established in Section 4107.5. This section provides procedures to correct a clerical error in the listing of a Subcontractor.

Section 4110 provides that a Contractor violating any of the provisions of ~~the~~ Chapter 4 violates the Contract and the Board may exercise the option either to cancel the Contract or assess the Contractor a penalty in an amount of not more than 10 percent of the subcontract involved, after a public hearing.

**2-3.2 Additional Responsibility Self Performance.** ~~The Contractor shall give personal attention to the fulfillment of the Contract and shall keep the Work under its control.~~

The Contractor shall perform, with its own organization, Contract work amounting to at least 50 percent of the Contract Price except that any designated “Specialty Items” may be performed by subcontract and the amount of any such “Specialty Items” so performed ~~may~~ will be deducted from the Contract Price before computing the amount required to be performed by the Contractor with its own organization. “Specialty Items” will be identified by the Agency in the Bid ~~or Proposal~~ or in the Special Provisions. Where an entire item is subcontracted, the value of work subcontracted will be based on the Contract Unit Price. When a portion of an item is subcontracted, the value of work subcontracted will be based on the estimated percentage of the Contract Unit Price. This will be determined from information submitted by the Contractor, and subject to approval by the Engineer.

~~Before the work of any Subcontractor is started, the Contractor shall submit to the Engineer for approval a written statement showing the work to be subcontracted giving the name and business of each Subcontractor and description and value of each portion of the work to be so subcontracted.~~

**2-3.3 Status of Subcontractors.** The Contractor shall give personal attention to the fulfillment of the Contract. The Contractor shall keep the Work under its control.

Subcontractors shall be considered employees of the Contractor, and the Contractor shall be responsible for their work.

In addition to the requirements of 2-3.1, before the work of any Subcontractor is started, the Contractor shall submit to the Engineer for approval a written statement listing the name, contractor license number, and business address of each Subcontractor and a description and value of each portion of the Work to be so subcontracted.

**2-4 CONTRACT BONDS.** Before execution of the Contract, the Bidder shall file surety bonds with the Agency to be approved by the Board in the amounts and for the purposes noted below. Bonds issued by a surety who is listed in the latest version of U.S. Department of Treasury Circular 570, who is authorized to issue bonds in California, and whose bonding limitation shown in said circular is sufficient to provide bonds in the amount required by the Contract shall be deemed to be approved unless specifically rejected by the Agency. Bonds from all other sureties shall be accompanied by all of the documents enumerated in the Code of Civil Procedure, Section 995.660 (a). The Bidder shall pay all bond premiums, costs, and incidentals.

Each bond shall incorporate, by reference, the Contract and be signed by both the Bidder and the Surety. ~~and~~ The signature of the authorized agent of the Surety shall be notarized.

The Bidder shall provide two good and sufficient surety bonds. The “Payment Bond” (Material and Labor Bond) shall be for not less than 100 percent of the Contract Price, to satisfy claims of material suppliers and mechanics and laborers employed by it on the Work. The bond shall be maintained by the Contractor in full force and effect until the Work is accepted by the Agency and until all claims for materials and labor are paid, and shall otherwise comply with the Civil Code.

The “Performance Bond” shall be for 100 percent of the Contract Price to guaranty faithful performance of all work, within the time prescribed, in a manner satisfactory to the Agency, and that all materials and workmanship will be free from original or developed defects. The bond must remain in effect until the end of all warranty periods set forth in the Contract Documents .

Should any bond become insufficient, the Contractor shall renew the bond within 10 days after receiving notice from the Agency.

Should any surety at any time be unsatisfactory to the Board, notice to that effect will be given to the Contractor ~~to that effect~~. No further payments shall be deemed due or will be made under the Contract until a new surety ~~shall qualify and be~~ qualifies and is accepted by the Board.

Changes in the Work or extensions of time, made pursuant to the Contract, shall in no way release the Contractor or the Surety from its obligations. Notice of such changes or extensions shall be waived by the Surety.

## **2-5 PLANS AND SPECIFICATIONS.**

**2-5.1 General.** The Contractor shall keep at the Work site a copy of the Plans and Specifications, to which the Engineer shall have access at all times.

The Plans, Specifications, and other Contract Documents shall govern the Work. The Contract Documents are intended to be complementary and cooperative. Anything specified in the Specifications and not shown on the Plans, or shown on the Plans and not specified in the Specifications, shall be as though shown on or specified in both.

The Plans shall be supplemented by such working drawings and shop drawings as are necessary to adequately control the Work.

~~The Contractor shall ascertain the existence of any conditions affecting the cost of the Work through a reasonable examination of the Work site prior to submitting the Bid.~~

~~Existing improvements visible at the Work site, for which no specific disposition is made on the Plans, but which interfere with the completion of the Work, shall be removed and disposed of by the Contractor.~~

The Contractor shall, upon discovering any error or omission in the Plans or Specifications, immediately call it to the attention of the Engineer.

**2-5.2 Precedence of Contract Documents.** If there is a conflict between any of the Contract Documents, the document highest in precedence shall control. The precedence shall be as follows:

- 1) Permits issued by jurisdictional regulatory agencies.
- 2) Change Orders and/or Supplemental Agreements; whichever occurs last.
- 3) Contract/Agreement.
- 4) Addenda.
- 5) Bid/Proposal.
- 6) Special Provisions.
- 7) Plans.
- 8) Standard Plans.
- 9) Standard Specifications.
- 10) Reference Specifications.

Detail drawings shall take precedence over general drawings.

## **2-5.3 Submittals.**

**2-5.3.1 General.** Submittals shall be provided, at the Contractor's expense, as ~~required~~ specified in 2-5.3.2, 2-5.3.3 and 2-5.3.4, when required by the Plans or Special Provisions, or when requested by the Engineer.

Materials shall neither be furnished nor fabricated, nor shall any work for which submittals are required, be performed, before the required submittals have been reviewed and accepted by the Engineer. Neither review nor acceptance of submittals by the Engineer shall relieve the Contractor from responsibility for errors, omissions, or deviations from the Contract Documents, unless such deviations were specifically called to the

attention of the Engineer in the letter of transmittal. The Contractor shall be responsible for the correctness of the submittals.

The Contractor shall allow a minimum of 20 working days for review of submittals unless otherwise specified in the Special Provisions. Each submittal shall be accompanied by a letter of transmittal.

**2-5.3.2 Working Drawings.** Working drawings are drawings showing details not shown on the Plans which are required to be designed by the Contractor. Working drawings shall be of a size and scale to clearly show all necessary details.

Six copies and one reproducible shall be submitted. If no revisions are required, three of the copies will be returned to the Contractor. If revisions are required, the Engineer will return one copy along with the reproducible for resubmission. Upon acceptance, the Engineer will return two of the copies to the Contractor and retain the remaining copies and the reproducible.

Working drawings are required in the following subsections:

**TABLE 2-5.3.2 (A)**

Item	Section Number	Title	Subject
1	7-10.4.1	Safety Orders	Trench Shoring
2	207-2.5	Joints	Reinforced Concrete Pipe
3	207-8.4	Joints	Vitrified Clay Pipe
4	207-10.2.1	General	Fabricated Steel Pipe
5	300-3.2	Cofferdams	Structure Excavation & Backfill
6	303-1.6.1	General	Falsework
7	303-1.7.1	General	Placing Reinforcement
8	303-3.1	General	Prestressed Concrete Construction
9	304-1.1.1	Shop Drawings	Structural Steel
10	304-1.1.2	Falsework Plans	Structural Steel
11	304-2.1	General	Metal Hand Railings
12	306-2.1	General	Jacking Operations
13	306-3.1	General	Tunneling Operations
14	306-3.4	Tunnel Supports	Tunneling Operations
15	306-6	Remodeling Existing Sewer Facilities	Polyethylene Liner Installation
16	306-8	Microtunneling	Microtunneling Operations
17	307-4.3	Controller Cabinet Wiring Diagrams	Traffic Signal Construction

Working drawings listed above as Items 5, 6, 8, 9, 10, 12, 13, 14 and 16 shall be prepared by a Civil or Structural Engineer registered by the State of California.

**2-5.3.3 Shop Drawings.** Shop drawings are drawings showing details of manufactured or assembled products proposed to be incorporated into the Work. Shop drawings required shall be as specified in the Special Provisions.

**2-5.3.4 Supporting Information.** Supporting information is information required by the Specifications for the purposes of administration of the Contract, analysis for verification of conformance with the Specifications, the operation and maintenance of a manufactured product or system to be constructed as part of the Work, and other information as may be required by the Engineer. Six copies of the supporting information shall be submitted to the Engineer prior to the start of the Work unless otherwise specified in the Special Provisions or directed by the Engineer. Supporting information for systems shall be bound together and include all manufactured items for the system. If resubmittal is not required, three copies will be returned to the

Contractor. Supporting information shall consist of the following and is required unless otherwise specified in the Special Provisions:

- 1) List of Subcontractors per 2-3.2.
- 2) List of Materials per 4-1.4.
- 3) ~~Certifications~~ Certificates of Compliance per 4-1.5.
- 4) Construction Schedule per 6-1.
- 5) Confined Space Entry Program per 7-10.4.4.
- 6) Concrete mix designs per 201-1.1.
- 7) Asphalt concrete mix designs per 203-6.1.
- 8) Data, including, but not limited to, catalog sheets, manufacturer's brochures, technical bulletins, specifications, diagrams, product samples, and other information necessary to describe a system, product or item. This information is required for irrigation systems, street lighting systems, and traffic signals, and may also be required for any product, manufactured item, or system.

**2-6 WORK TO BE DONE.** The Contractor shall perform all work necessary to complete the Contract in a satisfactory manner. Unless otherwise provided, the Contractor shall furnish all materials, equipment, tools, labor, and incidentals necessary to complete the Work.

**2-7 SUBSURFACE DATA.** All soil and test hole data, ~~water table~~ groundwater elevations, and soil analyses shown on the ~~drawings~~ Plans or included in the ~~Specifications~~ Special Provisions apply only at the location of the test holes and to the depths indicated. Soil test reports for test holes which have been drilled are available for inspection at the office of the Engineer. ~~Any~~ Additional subsurface exploration ~~shall be done~~ may be performed by Bidders or the Contractor at their own expense.

The indicated groundwater elevation ~~of the water table~~ is that which existed on the date ~~when test hole specified in the~~ data ~~was determined~~. It is the Contractor's responsibility to determine and allow for the elevation of groundwater elevation at on the date of project construction the Work is performed. A difference in groundwater elevation between ~~groundwater~~ what is shown in soil boring logs and ~~groundwater~~ what is actually encountered during construction will not be considered as a basis for Extra Work per 3-3.

**2-8 RIGHT-OF-WAY.** Rights-of-way, easements, or rights-of-entry for the Work will be provided by the Agency. Unless otherwise ~~provided~~ specified in the Special Provisions, the Contractor shall make arrangements, pay for, and assume all responsibility for acquiring, using, and disposing of additional work areas and facilities temporarily required. The Contractor shall indemnify and hold the Agency harmless from all claims for damages caused by such actions.

## **2-9 SURVEYING.**

**2-9.1 Permanent Survey Markers.** The Contractor shall notify the Engineer, or the owner on a Private Contract, at least 7 days before starting work to allow for the preservation of survey monuments, lot stakes (tagged), and bench marks. The Engineer, or the owner on a Private Contract, will, at its cost, ~~shall~~ file a Corner Record Form referencing survey monuments subject to disturbance in the Office of the County Surveyor prior to the start of construction and also prior to the completion of construction for the replacement of survey monuments. The Contractor shall not disturb survey monuments, lot stakes (tagged), or bench marks without the consent of the Engineer or the owner on a Private Contract ~~Contracts~~. The Contractor shall bear the expense of replacing any that may be disturbed without permission. Replacement shall be done only under the

direction of the Engineer by ~~a~~ Registered (~~licensed~~) Licensed Land Surveyor or a Registered Civil Engineer authorized to practice land surveying within the State of California.

When a change is made in the finished elevation of the pavement of any roadway in which a permanent survey monument is located, the Contractor shall adjust the monument cover to the new grade within 7 days of finished paving unless otherwise specified in the Special Provisions.

**2-9.2 Survey Service.** Except for Private Contracts, the Engineer will perform and be responsible for the accuracy of surveying adequate for construction. The Contractor shall preserve construction survey stakes and marks for the duration of their usefulness. If any construction survey stakes are lost or disturbed and need to be replaced, such replacement ~~shall~~ will be performed by the Engineer at the expense of the Contractor.

The Contractor shall notify the Engineer in writing at least 2 working days before survey services will be required in connection with the laying out of any portion of the Work. The Contractor shall dig all holes necessary for line and grade stakes.

Unless otherwise specified in the Special Provisions, stakes will be set and stationed by the Engineer for curbs, headers, sewers, storm drains, structures, and rough grade. A corresponding cut or fill to finished grade (or flowline) will be indicated on a grade sheet.

**2-9.3 Private Engineers.** Surveying by private engineers on the Work shall conform to the quality and practice required by the Engineer.

**2-9.4 Line and Grade.** All work shall conform to the lines, elevations, and grades shown on the Plans.

Three consecutive points set on the same slope shall be used together so that any variation from a straight grade can be detected. Any such variation shall be reported to the Engineer. In the absence of such report, the Contractor shall be responsible for any error in the grade of the ~~finished~~ Work.

Grades for underground conduits will be set at the surface of the ground. The Contractor shall transfer them to the bottom of the trench.

**2-10 AUTHORITY OF THE BOARD AND THE ENGINEER.** The Board has the final authority in all matters affecting the Work. Within the scope of the Contract, the Engineer has the authority to enforce compliance with the Plans and Specifications. The Contractor shall promptly comply with instructions from the Engineer ~~or an authorized representative~~.

The decision of the Engineer is final and binding on all questions relating to: quantities; acceptability of material, equipment, or work; execution, progress or sequence of work; and interpretation of the Plans, Specifications, or other ~~drawings~~ Contract Documents. This shall be precedent to any payment under the Contract, unless otherwise ordered by the Board.

**2-11 INSPECTION.** The Work is subject to inspection and approval by the Engineer. The Contractor shall notify the Engineer before noon of the working day before inspection is required. Work shall be done only in the presence of the Engineer, unless otherwise authorized. Any work done without proper inspection will be subject to rejection. The Engineer and any authorized representatives shall at all times have access to the Work during its construction at shops and yards and while in storage, as well as to the ~~project~~ Work site. The Contractor shall provide every reasonable facility for ascertaining that the materials and workmanship are in accordance with these Specifications. Inspection of the Work shall not relieve the Contractor of the obligation to fulfill all conditions of the Contract.

## SECTION 3 - CHANGES IN WORK

### 3-1 CHANGES REQUESTED BY THE CONTRACTOR.

**3-1.1 General.** Changes in the Plans and Specifications, requested in writing by the Contractor, which do not materially affect the Work and which are not detrimental to the Work or to the interests of the Agency, may be granted by the Engineer. Nothing herein shall be construed as granting a right to the Contractor to demand acceptance of such changes.

**3-1.2 Payment for Changes Requested by the Contractor.** If such changes are granted, they shall be made at a reduction in cost or no additional cost to the Agency.

### 3-2 CHANGES INITIATED BY THE AGENCY.

**3-2.1 General.** The Agency may change the Plans, Specifications, character of the work, or quantity of work provided the total arithmetic dollar value of all such changes, both additive and deductive, does not exceed 25 percent of the Contract Price. Should it become necessary to exceed this limitation, the change shall be by written Supplemental Agreement between the Contractor and Agency, unless both parties agree to proceed with the change by Change Order.

Change Orders shall be in writing and state the dollar value of the change or establish the method of payment, any adjustment in the Contract time of completion, and when negotiated prices are involved, shall provide for the Contractor's signature indicating acceptance.

#### 3-2.2 Contract Unit Prices.

**3-2.2.1 General.** If a change is ordered in an item of work covered by a Contract Unit Price, and such change does not involve a substantial change in character of the work from that shown on the Plans or specified in the Specifications, then an adjustment in payment will be made. This adjustment will be based upon the increase or decrease in quantity and the Contract Unit Price.

If the actual quantity of an item of work covered by a Contract Unit Price and constructed in conformance with the Plans and Specifications varies from the Bid quantity by 25 percent or less, payment will be made at the Contract Unit Price. If the actual quantity of said item of work varies from the Bid quantity by more than 25 percent, payment will be made per 3-2.2.2 or 3-2.2.3 as appropriate.

If a change is ordered in an item of work covered by a Contract Unit Price, and such change does involve a substantial change in the character of the work from that shown on the Plans or specified in the Specifications, an adjustment in payment will be made per 3-2.4.

**3-2.2.2 Increases of More Than 25 Percent.** Should the actual quantity of an item of work covered by a Contract Unit Price and constructed in conformance with the Plans and Specifications, exceed the Bid quantity by more than 25 percent, payment for the quantity in excess of 125 percent of the Bid quantity will be made on the basis of an adjustment in the Contract Unit Price mutually agreed to by the Contractor and the Agency, or at the option of the Engineer, on the basis of Extra Work per 3-3.

The Extra Work per 3-3 basis of payment shall not include fixed costs. Fixed costs shall be deemed to have been recovered by the Contractor through payment for 125 percent of the Bid quantity at the Contract Unit Price.

**3-2.2.3 Decreases of More Than 25 Percent.** Should the actual quantity of an item of work covered by a Contract Unit Price, and constructed in conformance with the Plans and Specifications, be less than 75

percent of the Bid quantity, an adjustment in payment will not be made unless so requested in writing by the Contractor. If the Contractor so requests, payment will be made on the basis of an adjustment in the Contract Unit Price mutually agreed to by the Contractor and the Agency, or at the option of the Engineer, on the basis of Extra Work per ~~3-3~~ 3-3; however, in no case will payment be less than would be made for the actual quantity at the Contract Unit Price nor more than would be made for 75 percent of the Bid quantity at the Contract Unit Price.

**3-2.3 Stipulated Unit Prices.** ~~Stipulated Unit Prices are unit prices established by the Agency in the Contract Documents.~~ Stipulated Unit Prices may be used for the adjustment of Contract changes when so specified in the Special Provisions.

**3-2.4 Agreed Prices.** ~~Agreed Prices are prices for new or unforeseen work, or adjustments in Contract Unit Prices per 3-2.2, established by mutual agreement between the Contractor and the Agency.~~ If mutual agreement can not be reached, the Engineer may direct the Contractor to proceed on the basis of Extra Work in accordance per 3-3, except as otherwise specified in 3-2.2.2 and 3-2.2.3.

**3.2.5 Eliminated Items.** Should any Bid item be eliminated in its entirety, payment will be made to the Contractor for its actual costs incurred in connection with the eliminated item prior to notification in writing from the Engineer so stating its elimination.

If material conforming to the Plans and Specifications is ordered by the Contractor for use in the eliminated item prior to the date of notification of elimination by the Engineer, and if the order for that material can not be canceled, payment will be made to the Contractor for the actual cost of the material. In this case, the material shall become the property of the Agency. Payment will be made to the Contractor for its actual costs for any further handling. If the material is returnable, the material shall be returned and payment will be made to the Contractor for the actual cost of charges made by the supplier for returning the material and for handling by the Contractor.

Actual costs, as used herein, shall be computed on the basis of Extra Work per 3-3.

### 3-3 EXTRA WORK.

**3-3.1 General.** New or unforeseen work will be classified as ~~“extra work”~~ Extra Work when the Engineer determines that it is not covered by Contract Unit Prices or Stipulated Unit Prices.

#### 3-3.2 Payment.

**3-3.2.1 General.** When the ~~price~~ cost for the Extra Work cannot be agreed upon, the Agency will pay for the Extra Work based on the accumulation of costs as provided herein.

#### 3-3.2.2 Basis for Establishing Costs.

(a) **Labor.** The costs of labor ~~will~~ shall be the actual cost for wages of workers performing the Extra Work at the time the Extra Work is done, plus employer payments of payroll taxes, workers compensation insurance, liability insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs, resulting from Federal, State, or local laws, as well as assessments or benefits required by lawful collective bargaining agreements.

The use of a labor classification which would increase the Extra Work cost will not be permitted unless the Contractor establishes the necessity for such additional costs. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental. The labor cost for foremen shall be proportioned to all of their assigned work and only that applicable to the Extra Work will be paid.

Nondirect labor costs, including superintendence, shall be considered part of the markup of specified in 3-3.2.3 (a).

(b) **Materials.** The cost of materials reported shall be at invoice or lowest current price at which such materials are locally available and delivered to the job Work site in the quantities involved, plus sales tax, freight, and delivery.

The Agency reserves the right to approve materials and sources of supply, or to supply materials to the Contractor if necessary for the progress of the Work. No markup shall be applied to any material provided by the Agency.

(c) **Tool and Equipment Rental.** No payment will be made for the use of tools which have a replacement value of \$200 or less.

Regardless of ownership, the rates to be used in determining equipment rental costs shall not exceed listed rates prevailing locally at equipment rental agencies, or distributors, at the time the Extra Work is performed.

The rental rates paid shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals. Necessary loading and transportation costs for equipment used on the Extra Work shall be included.

If equipment is used intermittently and, when not in use, could be returned to its rental source at less expense to the Agency than holding it at the Work site, it shall be returned, unless the Contractor elects to keep it at the Work site, at no expense to the Agency.

All equipment shall be acceptable to the Engineer, in good working condition, and suitable for the purpose for which it is to be used. ~~Manufacturer's ratings and approved modifications shall be used to classify equipment and it shall be powered by a unit of at least the minimum rating recommended by the manufacturer.~~

The reported rental time for equipment already at the Work site shall be the duration of its use on the Extra Work. This time ~~begins~~ shall begin when the equipment is first ~~put into actual operation~~ used on the Extra Work, plus the time required to move it from its previous site and back, or to a closer site.

(d) **Other Items.** The Agency may authorize other items which may be required on the Extra Work, including labor, services, material, and equipment. These items must be different in their nature from those required for the Work, and be of a type not ordinarily available from the Contractor or Subcontractors.

~~Invoices covering all such items in detail shall be submitted with the request for payment.~~

(e) **Invoices.** Vendors' invoices for material, equipment rental and other expenditures shall be submitted with the ~~request for payment~~ daily report per 3-3.3. If the ~~request for payment~~ daily report is not substantiated by invoices or other documentation, the Agency may establish the cost of the item involved at the lowest price which was current at the time of the report.

### 3-3.2.3 Markup.

(a) **Work by Contractor.** Unless otherwise ~~provided~~ specified in the Special Provisions, a reasonable allowance for overhead and profit shall be added to the Contractor's costs as determined under 3-3.2.2 and shall constitute the markup for all overhead and profit on Extra Work done by the Contractor. The Contractor shall also be compensated as specified in the Special Provisions for the actual increase in the Contractor's bond premium caused by the extra work.

(b) **Work by Subcontractor.** When any of the Extra Work is performed by a Subcontractor, the markup established in 3-3.2.3 (a) shall be applied to the Subcontractor's costs as determined under 3-3.2.2. Unless otherwise ~~provided~~ specified in the Special Provisions, a reasonable allowance for the Contractor's overhead and profit shall be added to the sum of the Subcontractor's costs and markup and shall constitute the markup for all overhead and profit for the Contractor on Extra Work done by the Subcontractor.

**3-3.3 Daily Reports by Contractor.** When the ~~price~~ cost for the Extra Work cannot be agreed upon, the Contractor shall submit a daily report to the Engineer on forms approved by the Agency. ~~Included are~~ Applicable delivery tickets, listing all labor, materials, and equipment involved for that day, and other services and expenditures when authorized shall be included. Failure to submit the daily report by the close of the next working day may waive any rights for that day. An attempt shall be made to reconcile the report daily, and it shall be signed by the Engineer and the Contractor. In the event of a disagreement, pertinent notes shall be entered by each party to explain points which cannot be resolved immediately. Each party shall retain a signed copy of the report. Reports by Subcontractors or others shall be submitted through the Contractor.

The report shall:

1. ~~Show~~ List the names of workers, classifications, and hours worked.
2. Describe and list quantities of materials used.
3. ~~Show~~ List the type of equipment, size, identification number, and hours of operation, including loading and transportation, if applicable.
4. Describe other services and expenditures in such detail as the Agency may require.

**3-4 CHANGED CONDITIONS.** The Contractor shall ~~promptly~~ notify the Engineer of the following Work site conditions (hereinafter called "changed conditions"), in writing, upon their discovery and before they are disturbed:

1. Subsurface or latent physical conditions differing materially from those represented in the Contract Documents;
2. Unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character being performed; and
3. Material differing from that represented in the Contract Documents which the Contractor believes may be hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with the provisions of existing law.

The Engineer will ~~promptly~~ investigate conditions which appear to be changed conditions. If the Engineer determines that the conditions are changed conditions and will materially affect costs, a Change Order will be issued adjusting the compensation for such portion of the Work in accordance with 3-2.2. If the Engineer determines that the conditions are changed conditions and ~~they~~ will materially affect performance time, the Contractor, upon submitting a written request, will be granted an extension of time ~~subject to the provisions of~~ in accordance with 6-6.

If the Engineer determines that the conditions do not justify an adjustment in compensation, the Contractor will be so notified in writing. This notice will also advise the Contractor of its obligation to notify the Engineer in writing if the Contractor disagrees.

~~Should~~ If the Contractor disagrees with the decision, it may submit a written notice of potential claim to the Engineer before commencing the disputed work. In the event of such a dispute, the Contractor shall not be excused from any scheduled completion date provided by the Contract and shall proceed with all work to be performed under the Contract. However, the Contractor shall retain any and all rights provided by either the Contract or by law which pertain to the resolution of disputes and protests between the contracting parties. The Contractor shall proceed ~~as provided in~~ accordance with 3-5.

The Contractor's failure to give notice of changed conditions promptly upon their discovery and before they are disturbed shall constitute a waiver of all claims in connection therewith.

**3-5 DISPUTED WORK.** If the Contractor and the Agency are unable to reach agreement ~~on disputed work~~, the Agency may direct the Contractor to proceed with the Disputed Work. Payment shall be as later determined by 3-2, 3-3, mediation or arbitration, if the Agency and Contractor agree thereto, or as fixed in a court of law.

Although not to be construed as proceeding under ~~extra work provisions~~ 3-3, the Contractor shall keep and furnish records of Disputed Work ~~in accordance with 3-3~~ to the Engineer in accordance with 3-3.

## SECTION 4 - CONTROL OF MATERIALS

### 4-1 MATERIALS AND WORKMANSHIP.

**4-1.1. General.** All materials, parts, and equipment furnished by the Contractor in the Work shall be new, high grade, and free from defects. Used or secondhand materials, parts, and equipment may be used only if so specified in the Special Provisions. ~~Quality of work shall be in accordance with the generally accepted standards. Material and work quality shall be subject to the Engineer's approval.~~

The quality of materials and workmanship shall be subject to approval by the Engineer. Materials and ~~work~~ workmanship of quality not conforming to the requirements of the Specifications shall be considered defective and will be subject to rejection. Defective work or material, whether in place or not, shall be removed immediately from the Work site by the Contractor, at its expense, when so directed by the Engineer.

If the Contractor fails to replace any defective or damaged work or material after reasonable notice, the Engineer may cause such work or materials to be replaced. The replacement expense will be deducted from the amount to be paid to the Contractor.

~~Used or secondhand materials, parts, and equipment may be used only if permitted by the Specifications.~~

**4-1.2 Protection of Work and Materials.** The Contractor shall provide and maintain storage facilities and employ such measures as will preserve the specified quality and fitness of materials to be used in the Work. Stored materials shall be reasonably accessible for inspection. The Contractor shall also adequately protect new and existing work and all items of equipment for the duration of the Contract.

The Contractor shall not, without the Agency's consent, assign, sell, mortgage, hypothecate, or remove equipment or materials which have been installed or delivered and which may be necessary for the completion of the ~~Contract~~ Work.

### 4-1.3 Inspection Requirements.

**4-1.3.1 General.** Unless otherwise specified in the Special Provisions, inspection is required at the source for ~~such typical materials and fabricated items as bituminous paving~~ asphalt concrete pavement mixtures, structural concrete, metal fabrication, metal casting, welding, concrete pipe manufacture, protective coating application, and similar shop or plant operations. Additional materials and fabricated items which require inspection at the source shall be as specified in the Special Provisions.

Steel pipe in sizes less than ~~450 mm (18 inches)~~ 18 inches (450 mm) and vitrified clay and cast iron pipe in all sizes are acceptable upon certification as to compliance with the Specifications, subject to sampling and testing by the Agency. Standard items of equipment such as electric motors, conveyors, elevators, plumbing fixtures, etc., are subject to inspection at the job Work site only. Special items of equipment such as designed electrical panel boards, large pumps, sewage plant equipment, etc., are subject to inspection at the source, ~~normally only~~ for performance testing only. ~~The Specifications may require~~ Inspection at the source for other items not typical of those listed in this section shall be as specified in the Special Provisions.

**4-1.3.2 Inspection of Materials Not Locally Produced.** When the Contractor intends to purchase materials, fabricated products, or equipment from sources located more than ~~80 km (50 miles)~~ 50 miles (80 km) outside the geographical limits of the Agency, an inspector or accredited testing laboratory (approved by the Engineer), shall be engaged by the Contractor at its expense, to inspect the materials, equipment or process. This approval shall be obtained before producing any material or equipment. The inspector or representative of the testing laboratory shall ~~judge~~ evaluate the materials ~~by~~ for conformance with the requirements of the Plans and Specifications. The Contractor shall forward reports required by the Engineer. No materials or equipment shall be shipped nor shall any processing, fabrication or treatment of such materials be done without proper inspection by the approved agent. Approval by said agent shall not relieve the Contractor of responsibility for complying with the ~~Contract~~ requirements of the Contract Documents.

**4-1.3.3 Inspection by the Agency.** The Agency will provide all inspection and testing laboratory services within ~~80 km (50 miles)~~ 50 miles (80 km) of the geographical limits of the Agency. For Private Contracts, all costs of inspection at the source, including salaries and mileage costs, shall be paid by the permittee.

**4-1.4 Test of Materials.** Before incorporation ~~in~~ into the Work, the Contractor shall submit samples of materials, as the Engineer may require, at no cost to the Agency. The Contractor, at its expense, shall deliver the materials for testing to the place and at the time designated by the Engineer. Unless otherwise ~~provided~~ specified in the Special Provisions, all initial testing and a reasonable amount of retesting will be performed under the direction of the Engineer, and at no expense to the Contractor. If the Contractor is to provide and pay for testing, it will be ~~stated in the Specifications~~ so specified in the Special Provisions. For Private Contracts, the testing expense shall be borne by the permittee.

The Contractor shall notify the Engineer in writing, at least 15 days in advance, of its intention to use materials for which tests are specified, to allow sufficient time to perform the tests. The notice shall name the proposed supplier and source of material.

If the notice of intent to use is sent before the materials are available for testing or inspection, or is sent so far in advance that the materials on hand at the time will not last but will be replaced by a new lot prior to use on the Work, it will be the Contractor's responsibility to renotify the Engineer when samples which are representative may be obtained.

**4-1.5 Certification Certificate of Compliance.** The Engineer may waive the materials testing requirements of the Specifications and accept the manufacturer's written ~~certification~~ certificate of compliance

that the materials to be supplied meet those requirements. Materials test data may be required as part of the certification by the Engineer to be included with the submittal.

**4-1.6 Trade Names or Equals.** The Contractor may supply any of the materials specified or offer an equivalent. The Engineer ~~shall~~ will determine whether the material offered is equivalent to that specified. Adequate time shall be allowed for the Engineer to make this determination.

~~Whenever any particular material, process, or equipment is indicated by patent, proprietary or brand name, or by name of manufacturer, such wording is used for the purpose of facilitating its description and shall be deemed to be followed by the words or equal. A listing of materials is not intended to be comprehensive, or in order of preference. The Contractor may offer any material, process, or equipment considered to be equivalent to that indicated. The substantiation of offers shall be submitted as provided in the Contract Documents.~~

The Contractor shall, at its expense, furnish data concerning items offered by it as equivalent to those specified. The Contractor shall have the material tested as required by the Engineer to determine that the quality, strength, physical, chemical, or other characteristics, including durability, finish, efficiency, dimensions, service, and suitability are such that the item will fulfill its intended function.

Test methods shall be subject to the approval of the Engineer. Test results shall be reported promptly to the Engineer, who will evaluate the results and determine if the substitute item is equivalent. The Engineer's findings shall be final. Installation and use of a substitute item shall not be made until approved by the Engineer.

If a substitute offered by the Contractor is not found to be equal to the specified material, the Contractor shall furnish and install the specified material.

The specified Contract completion time shall not be affected by any circumstance developing from the provisions of this section subsection.

**4-1.7 Weighing and Metering Equipment.** All Scales and metering equipment used for proportioning materials shall be inspected for accuracy and certified within the past 12 months by the State of California Bureau of Weights and Measures, by the County Director or Sealer of Weights and Measures, or by a scale mechanic registered with or licensed by the County.

The accuracy of the work of a scale service agency, except as stated herein, shall meet the standards of the ~~California~~ Business and Professions Code and the ~~California~~ Code of Regulations pertaining to weighing devices. A Certificate of Compliance shall be presented, prior to operation, to the Engineer for approval and shall be renewed whenever required by the Engineer at no cost to the Agency.

All Scales shall be arranged so they may be read easily from the operator's platform or area. They shall indicate the true net weight without the application of any factor. The figures of the scales shall be clearly legible. Scales shall be accurate to within 1 percent when tested with the plant shut down. Weighing equipment shall be so insulated against vibration or moving of other operating equipment in the plant area that the error in weighing with the entire plant running will not exceed 2 percent for any setting nor 1.5 percent for any batch.

**4-1.8 Calibration of Testing Equipment.** Testing equipment, such as, but not limited to pressure gages, metering devices, hydraulic systems, force (load) measuring instruments, and strain-measuring devices shall be calibrated by a testing agency acceptable to the Engineer at intervals not to exceed 12 months and following repairs, modification, or relocation of the equipment. Calibration certificates shall be provided when requested by the Engineer.

**4-1.9 Construction Materials Dispute Resolution (Soils, Rock Materials, Concrete, Mortar and Related Materials, Masonry Materials, Bituminous Asphalt Materials, Rock Products, and**

**Modified Asphalts).** In the interest of safety and public value, whenever credible evidence arises to contradict the test values of materials, the Agency and the Contractor will initiate an immediate and cooperative investigation. Test values of materials are results of the materials' tests, as defined by these Specifications or by the Special Provisions, required to accept the Work. Credible evidence is process observations or test values gathered using industry accepted practices. A contradiction exists whenever test values or process observations of the same or similar materials are diverse enough such that the Work acceptance or performance becomes suspect. The investigation shall allow access to all test results, procedures, and facilities relevant to the Disputed Work and consider all available information and, when necessary, gather new and additional information in an attempt to determine the validity, the cause, and if necessary, the remedy to the contradiction. If the cooperative investigation reaches any resolution mechanism acceptable to both the Agency and the Contractor, the contradiction shall be considered resolved and the cooperative investigation concluded.

Whenever the cooperative investigation is unable to reach resolution, the investigation may then either conclude without resolution or continue by written notification of one party to the other requesting the implementation of a resolution process by committee. The continuance of the investigation shall be contingent upon recipient's agreement and acknowledged in writing within 3 calendar days after receiving a request. Without acknowledgement, the investigation shall conclude without resolution. The committee shall consist of ~~three~~ 3 State of California Registered Civil Engineers. Within 7 calendar days after the written request notification, the Agency and the Contractor will each select ~~one~~ 1 engineer. Within 14 calendar days of the written request notification, the ~~two~~ 2 selected engineers will select a third engineer. The goal in selection of the third member is to complement the professional experience of the first ~~two~~ 2 engineers. Should the ~~two~~ 2 engineers fail to select the third engineer, the Agency and the Contractor shall each propose 2 engineers to be the third member within 21 calendar days after the written request notification. The first ~~two~~ 2 engineers previously selected shall then select 1 ~~one~~ of the ~~four~~ 4 proposed engineers in a blind draw.

The committee shall be a continuance of the cooperative investigation and will re-consider all available information and if necessary gather new and additional information to determine the validity, the cause, and if necessary, the remedy to the contradiction. The committee will focus upon the performance adequacy of the material(s) using standard engineering principles and practices and to ensure public value, the committee may provide engineering recommendations as necessary. Unless otherwise agreed, the committee will have 30 calendar days from its formation to complete their review and submit their findings. The final resolution of the committee shall be by majority opinion, in writing, stamped and signed. Should the final resolution not be unanimous, the dissenter may attach a written, stamped, and signed minority opinion.

Once started, the resolution process by committee shall continue to full conclusion unless:

1. Within 7 days of the formation of the committee, the Agency and the Contractor reach an acceptable resolution mechanism; or
2. Within 14 days of the formation of the committee, the initiating party withdraws its written notification and agrees to bear all investigative related costs thus far incurred; or
3. At any point by the mutual agreement of the Agency and the Contractor.

Unless otherwise agreed, the Contractor shall bear and maintain a record for all the investigative costs until resolution. Should the investigation discover assignable causes for the contradiction, the assignable party, the Agency or the Contractor, shall bear all costs associated with the investigation. Should assignable causes for the contradiction extended to both parties, the investigation will assign costs cooperatively with each party or when necessary, equally. Should the investigation substantiate a contradiction without assignable cause, the

investigation will assign costs cooperatively with each party or when necessary, equally. Should the investigation be unable to substantiate a contradiction, the initiator of the investigation shall bear all investigative costs. All claim notification requirements of the contract pertaining to the contradiction shall be suspended until the investigation is concluded.

## SECTION 5 - UTILITIES

**5-1 LOCATION.** The permittee (in the case of Private Contracts) ~~and~~ or the Agency (in the case of Cash or Assessment Act Contracts), will search known substructure records and furnish the Contractor with copies of documents which describe the location of utility substructures, or will indicate on the Plans ~~for the project~~ those substructures (except for service connections) which may affect the Work. Information regarding removal, relocation, abandonment, or installation of new utilities will be furnished to prospective Bidders.

Where underground main distribution conduits such as water, gas, sewer, electric power, telephone, or cable television are shown on the Plans, the Contractor shall assume that every property parcel will be served by a service connection for each type of utility.

~~As provided in~~ Pursuant to Section 4216 of the ~~California~~ Government Code, at least 2 working days prior to commencing any excavation, the Contractor shall contact the regional notification center (Underground Service Alert of Southern California) and obtain an inquiry identification number.

~~The California Department of Transportation~~ Caltrans is not required by Section 4216 to become a member of the regional notification center. The Contractor shall contact ~~#~~ Caltrans for the location of its subsurface installations.

The Contractor shall determine the location and depth of all utilities, including service connections, which have been marked by the respective owners and which may affect or be affected by its operations. ~~If no pay item is provided in the Contract for this work, full compensation for such work shall be considered as included in the prices bid for other items of work.~~ Unless otherwise specified in the Special Provisions, payment shall be considered as included in the prices in the Bid for other items of work.

**5-2 PROTECTION.** The Contractor shall not interrupt the service function or disturb the support of any utility without authority from the utility owner or ~~order from the Agency~~ direction from the Engineer. All Valves, switches, vaults, and meters shall be maintained readily accessible for emergency shutoff.

Where protection is required to ensure support of utilities located as shown on the Plans or in accordance with 5-1, the Contractor shall, unless otherwise ~~provided~~ specified on the Plans or in the Special Provisions, furnish and place the necessary protection at its expense.

Upon learning of the existence and location of any utility omitted from or shown incorrectly on the Plans, the Contractor shall immediately notify the Engineer in writing. When authorized by the Engineer, support or protection of the utility will be paid for as provided in 3-2.2.3 or 3-3.

The Contractor shall immediately notify the Engineer and the utility owner if any utility is disturbed or damaged. The Contractor shall bear the costs of repair or replacement of any utility damaged if located ~~as noted~~ in accordance with 5-1.

When placing concrete around or contiguous to any non-metallic utility installation, the Contractor shall at its expense:

- a) Furnish and install a 2-inch (50 mm) ~~50mm(2-inch)~~ cushion of expansion joint material or other similar resilient material; or
- b) Provide a sleeve or other opening which will result in a 2-inch (50 mm) ~~50mm(2-inch)~~ minimum-clear annular space between the concrete and the utility; or
- c) Provide other acceptable means to prevent embedment in or bonding to the concrete.

Where concrete is used for backfill or for structures which would result in embedment, or partial embedment, of a metallic utility installation; or where the coating, bedding or other cathodic protection system is exposed or damaged by the Contractor's operations; the Contractor shall notify the Engineer and arrange to secure the advice of the affected utility owner regarding the procedures required to maintain or restore the integrity of the system.

**5-3 REMOVAL.** Unless otherwise specified in the Special Provisions, the Contractor shall remove all interfering portions of utilities shown on the Plans ~~or indicated in the Bid documents~~ as "abandoned" or "to be abandoned in place". Before starting removal operations, the Contractor shall ascertain from the Agency whether the abandonment is complete, and the costs involved in the removal and disposal shall be included in the Bid for the items of work necessitating such removals.

**5-4 RELOCATION.** When feasible, the owners responsible for utilities within the area affected by the Work will complete their necessary installations, relocations, repairs, or replacements before commencement of work by the Contractor. When the Plans or ~~Specifications~~ Special Provisions indicate that a utility installation is to be relocated, altered, or constructed by others, the Agency will conduct all negotiations with the owners and utility work will be done at no cost to the Contractor, except as ~~provided in~~ otherwise specified in 301-1.6. Utilities which are relocated in order to avoid interference shall be protected in their position and the cost of such protection shall be included in the Bid for the items of work necessitating such relocation.

After award of the Contract, portions of utilities which are found to interfere with the Work will be relocated, altered or reconstructed by the utility owners, or the Engineer may order changes in the Work to avoid interference. Such changes will be paid for in accordance with 3-2.

When the Plans or ~~Specifications~~ Special Provisions provide for the Contractor to alter, relocate, or reconstruct a utility, all costs for such work shall be included in the Bid for the items of work necessitating such work. Temporary or permanent relocation or alteration of utilities requested by the Contractor for its convenience shall be its responsibility and it shall make all arrangements and bear all costs.

The utility owner will relocate service connections as necessary within the limits of the Work or within temporary construction or slope easements. When directed by the Engineer, the Contractor shall arrange for the relocation of service connections as necessary between the meter and property line, or between a meter and the limits of temporary construction or slope easements. Payment for the relocation of such service connections will be ~~paid for~~ in accordance with ~~provisions of~~ 3-3. Payment will include the restoration of all existing improvements which may be affected thereby. The Contractor may agree with the owner of any utility to disconnect and reconnect interfering service connections. The Agency will not be involved in any such agreement.

**5-5 DELAYS.** The Contractor shall notify the Engineer of its construction schedule insofar as it affects the protection, removal, or relocation of utilities. Said notification shall be included as a part of the construction schedule ~~required in~~ accordance with 6-1. The Contractor shall notify the Engineer in writing of any subsequent changes in the construction schedule which will affect the time available for protection, removal, or relocation of utilities.

The Contractor will not be entitled to damages or additional payment for delays attributable to utility relocations or alterations if correctly located, noted, and completed in accordance with 5-1.

The Contractor may be given an extension of time for unforeseen delays attributable to unreasonably protracted interference by utilities in performing work correctly shown on the Plans.

The Agency will assume responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities within the area affected by the Work if such utilities are not identified in the Contract Documents. The Contractor will not be assessed liquidated damages for any delay caused by failure of the Agency to provide for the timely removal, relocation, or protection of such existing facilities.

If the Contractor sustains loss due to delays attributable to interferences, relocations, or alterations not covered by 5-1, which could not have been avoided by the judicious handling of forces, equipment, or plant, there shall be paid to the Contractor such amount as the Engineer may find to be fair and reasonable compensation for such part of the Contractor's actual loss as was unavoidable and the Contractor may be granted an extension of time.

**5-6 COOPERATION.** When necessary, the Contractor shall so conduct its operations as to permit access to the Work site and provide time for utility work to be accomplished during the progress of the Work.

## SECTION 6 - PROSECUTION, PROGRESS, AND ACCEPTANCE OF THE WORK

### 6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF THE WORK.

**6-1.1 Construction Schedule.** After notification of award of the Contract and prior to start of any work, the Contractor shall submit its proposed construction schedule to the Engineer for approval. The construction schedule shall be in the form of a tabulation, chart, or graph and shall be in sufficient detail to show chronological relationship of all activities of the ~~project~~ Work. These include, but are not limited to: estimated starting and completion dates of various activities, ~~submission of shop drawings to the Engineer for approval~~ submission of submittals per 2-5.3, procurement of materials and scheduling of equipment. The construction schedule shall ~~recognize~~ incorporate the requirements of 5-5 and reflect completion of ~~all work under the Contract~~ the Work within the specified Contract time and in accordance conformance with the Specifications Contract Documents.

If the Contractor desires to make a major change in the method of operations after commencing construction, or if the schedule fails to reflect the actual progress, the Contractor shall submit to the Engineer a revised construction schedule in advance of beginning revised operations.

The Engineer may waive these requirements for work constructed under a permit.

**6-1.2 Commencement of the Work.** Unless otherwise ~~provided~~ specified in the Special Provisions, the Contract time shall commence upon the date of issuance of ~~a notice to proceed~~ the Notice to Proceed. The Work shall start within 15 days thereafter, and be diligently prosecuted to completion within the Contract time ~~provided in the Specifications~~.

~~If the Contractor desires to make a major change in the method of operations after commencing construction, or if the schedule fails to reflect the actual progress, the Contractor shall submit to the Engineer a revised construction schedule in advance of beginning revised operations.~~

~~The Engineer may waive these requirements for work constructed under permit.~~

**6-2 PROSECUTION OF THE WORK.** To minimize public inconvenience and possible hazard and to restore street and other work areas to their original condition and state of usefulness as soon as practicable, the Contractor shall diligently prosecute the Work to completion. If the Engineer determines that the Contractor is failing to prosecute the Work to the proper extent, the Contractor shall, upon orders from the Engineer, immediately take steps to remedy the situation. All costs of prosecuting the Work as ~~described~~ specified herein shall be included in the ~~Contractor's Bid~~ Contract Price. Should the Contractor fail to take the necessary steps to fully accomplish said purposes, after orders of the Engineer, the Engineer may suspend the Work in whole or part, until the Contractor takes said steps.

~~As soon as possible under the provisions of the Specifications, the Contractor shall backfill all excavations and restore to usefulness all improvements existing prior to the start of the Work.~~

If Work is suspended through no fault of the Agency, all expenses and losses incurred by the Contractor during such suspensions shall be borne by the Contractor. If the Contractor fails to properly provide for public safety, traffic, and protection of the Work during periods of suspension, the Agency may elect to do so, and deduct the cost thereof from monies due the Contractor. Such actions will not relieve the Contractor from liability.

### **6-3 SUSPENSION OF THE WORK.**

**6-3.1 General.** The Work may be suspended in whole or in part when determined by the Engineer that the suspension is necessary in the interest of the Agency. The Contractor shall comply immediately with any written order of the Engineer. Such suspension shall be without liability to the Contractor on the part of the Agency except as otherwise specified in 6-6.3.

**6-3.2 Archaeological and Paleontological Discoveries.** If discovery is made of items of archaeological or paleontological interest, the Contractor shall immediately cease excavation in the area of discovery and shall not continue until ordered by the Engineer. When resumed, excavation operations within the area of discovery shall be as directed by the Engineer.

Discoveries which may be encountered may include, but not be limited to, dwelling sites, stone implements or other artifacts, animal bones, human bones, and fossils.

The Contractor shall be entitled to an extension of time and compensation in accordance with ~~the provisions~~ of 6-6.

**6-4 DEFAULT BY THE CONTRACTOR.** If the Contractor fails to begin delivery of material and equipment, to commence the Work within the time specified, to maintain the rate of delivery of material, to execute the Work in the manner and at such locations as specified, or fails to maintain the Work schedule which will insure the Agency's interest, or, if the Contractor is not carrying out the intent of the Contract, the Agency may serve written notice upon the Contractor and the Surety on its Faithful Performance Bond demanding satisfactory compliance with the Contract.

The Contract may be canceled by the Board without liability for damage, when in the Board's opinion the Contractor is not complying in good faith, has become insolvent, or has assigned or subcontracted any part of the Work without the Board's consent. In the event of such cancellation, the Contractor will be paid the actual amount due based on the Contract Unit Prices or lump ~~sums-bid~~ sum prices in the Bid and the quantity of the Work completed at the time of cancellation, less damages caused to the Agency by acts of the Contractor. The Contractor, in having tendered a Bid, shall be deemed to have waived any and all claims for damages because

of cancellation of the Contract for any such reason. If the Agency declares the Contract canceled for any of the above reasons, written notice to that effect shall be served upon the Surety. The Surety shall, within 5 days, assume control and perform the Work as successor to the Contractor.

If the Surety assumes any part of the Work, it shall take the Contractor's place in all respects for that part, and shall be paid by the Agency for all work performed by it in accordance with the Contract. If the Surety assumes the entire Contract, all money due the Contractor at the time of its default shall be payable to the Surety as the Work progresses, subject to the terms of the Contract.

If the Surety does not assume control and perform the Work within 5 days after receiving notice of cancellation, or fails to continue to comply, the Agency may exclude the Surety from the premises. The Agency may then take possession of all material and equipment and complete the Work by Agency forces, by letting the unfinished Work to another Contractor, or by a combination of such methods. In any event, the cost of completing the Work shall be charged against the Contractor and its Surety and may be deducted from any money due or becoming due from the Agency. If the sums due under the Contract are insufficient for completion, the Contractor or Surety shall pay to the Agency within 5 days after the completion, all costs in excess of the sums due.

The provisions of this subsection shall be in addition to all other rights and remedies available to the Agency under law.

**6-5 TERMINATION OF THE CONTRACT.** The Board may terminate the Contract at its own discretion or when conditions encountered during the Work make it impossible or impracticable to proceed, or when the Agency is prevented from proceeding with the Contract by act of God, by law, or by official action of a public authority.

#### **6-6 DELAYS AND EXTENSIONS OF TIME.**

**6-6.1 General.** If delays are caused by unforeseen events beyond the control of the Contractor, such delays will entitle the Contractor to an extension of the Contract time as provided herein, but the Contractor will not be entitled to damages or additional payment due to such delays, except as ~~provided~~ otherwise specified in 6-6.3. Such unforeseen events may include: war, government regulations, labor disputes, strikes, fires, floods, adverse weather or elements necessitating cessation of work, inability to obtain materials, labor or equipment, required extra work, or other specific events as may be further described in the ~~Specifications~~ Special Provisions.

No extension of time will be granted for a delay caused by the Contractor's inability to obtain materials unless the Contractor furnishes to the Engineer documentary proof. The proof must be provided in a timely manner in accordance with the sequence of the Contractor's operations and the approved construction schedule.

If delays beyond the Contractor's control are caused by events other than those mentioned above, the Engineer may deem an extension of time to be in the best interests of the Agency. The Contractor will not be entitled to damages or additional payment due to such delays, except as ~~provided~~ otherwise specified in 6-6.3.

If delays beyond the Contractor's control are caused solely by action or inaction by the Agency, such delays will entitle the Contractor to an extension of time ~~as provided in~~ per 6-6.2.

**6-6.2 Extensions of Time.** Extensions of time, when granted, will be based upon the effect of delays to the Work. They will not be granted for noncontrolling delays to minor portions of the Work unless it can be shown that such delays did or will delay the progress of the Work.

**6-6.3 Payment for Delays to Contractor.** Pursuant to Section 7102 of the Public Contract Code, the Contractor will be compensated for damages incurred due to delays for which the Agency is responsible. Such actual costs will be determined by the Engineer. The Agency will not be liable for damages which the Contractor could have avoided by any reasonable means, such as judicious handling of forces, equipment, or plant. The determination of what damages the Contractor could have avoided will be made by the Engineer.

**6-6.4 Written Notice and Report.** If the Contractor desires payment for a delay as specified in 6-6.3 or an extension of time, it shall file with the Agency Engineer a written request and report of cause within 30 days after the beginning of the delay. The request for payment or extension must be made at least 15 days before the specified completion date. Failure by the Contractor to file these items within the times specified will be considered grounds for refusal by the Agency to consider such request.

## **6-7 TIME OF COMPLETION.**

**6-7.1 General.** The Contractor shall complete the Work within the time ~~set forth~~ specified in the Contract or the Special Provisions. The Contractor shall complete each portion of the Work within ~~such~~ the time specified as ~~set forth~~ in the Contract or the Special Provisions for such portion. Unless otherwise specified in the Contract or the Special Provisions, the time of completion of the Contract shall be expressed in working days.

**6-7.2 Working Day.** A working day is any day within the period between the date of the start of the Contract time as ~~defined~~ specified in 6-1 and the date ~~provided for completion, or upon~~ of field acceptance of the Work by the Engineer ~~for all work provided for in the Contract, whichever occurs first~~, other than:

1. Saturday,
2. Sunday,
3. any day designated as a holiday by the Agency,
4. any other day designated as a holiday in a Master Labor Agreement entered into by the Contractor or on behalf of the Contractor as an eligible member of a contractor association,
5. any day the Contractor is prevented from working at the beginning of the workday for cause as ~~defined~~ specified in 6-6.1, or
6. any day the Contractor is prevented from working during the first 5 hours with at least 60 percent of the normal work force for cause as ~~defined~~ specified in 6-6.1.

**6-7.3 Contract Time Accounting.** The Engineer will make a daily determination of each working day to be charged against the Contract time. These determinations will be discussed and the Contractor will be furnished a periodic statement showing the allowable number of working days of Contract time, as adjusted, at the beginning of the reporting period. The statement will also indicate the number of working days charged during the reporting period and the number of working days of Contract time remaining. If the Contractor does not agree with the statement, it shall file a written protest within 15 days after receipt, setting forth the facts of the protest. Otherwise, the statement will be deemed to have been accepted.

**6-8 COMPLETION, ACCEPTANCE, AND WARRANTY.** The Work will be inspected by the Engineer for acceptance upon receipt of the Contractor's written assertion that the Work has been completed.

If, in the Engineer's judgment, the Work has been completed and is ready for acceptance, it will so certify to the Board, which may accept the completed Work. The Engineer will, in its certification to the Board, give the date when the Work was completed. This will be the date when the Contractor is relieved from responsibility to protect the Work.

The warranty period for equipment or material shall commence on the date equipment or material is placed into service at the direction of the Agency. In the event such items are not placed into service prior to partial or final acceptance of the Work, the warranty period shall commence on the date of such acceptance.

All work shall be warranted by the Contractor against defective workmanship and materials for a period of 1 year from the date the Work was completed. The Contractor shall replace or repair any such defective work in a manner satisfactory to the Engineer, after notice to do so from the Engineer, and within the time specified in the notice. If the Contractor fails to make such replacement or repairs within the time specified in the notice, the Agency may perform this work and the Contractor's ~~sureties~~ Surety shall be liable for the cost thereof.

**6-9 LIQUIDATED DAMAGES.** Failure of the Contractor to complete the Work within the time allowed will result in damages being sustained by the Agency. Such damages are, and will continue to be, impracticable and extremely difficult to determine. For each consecutive calendar day in excess of the time specified for ~~the~~ completion of the Work, as adjusted in accordance with 6-6, the Contractor shall pay to the Agency, or have withheld from monies due it, the sum of \$250, unless otherwise ~~provided~~ specified in the ~~Specifications~~ Special Provisions .

Execution of the Contract shall constitute agreement by the Agency and Contractor that \$250 per day is the minimum value of the costs and actual damage caused by the failure of the Contractor to complete the Work within the allotted time. Such sum is liquidated damages and shall not be construed as a penalty, and may be deducted from payments due the Contractor if such delay occurs.

**6-10 USE OF IMPROVEMENT DURING CONSTRUCTION.** The Agency reserves the right to take over and utilize all or part of any completed facility or appurtenance. The Contractor will be notified in writing in advance of such action. Such action by the Agency will relieve the Contractor of responsibility for injury or damage to said completed portions of the improvement resulting from use by public traffic or from the action of the elements or from any other cause, except Contractor operations or negligence. The Contractor will not be required to reclean such portions of the improvement before field acceptance, except for cleanup made necessary by its operations. Nothing in this ~~section~~ subsection shall be construed as relieving the Contractor from full responsibility for correcting defective work or materials.

In the event the Agency exercises its right to place into service and utilize all or part of any completed facility or appurtenance, the Agency will assume the responsibility and liability for injury to persons or property resulting from the utilization of the facility or appurtenance so placed into service, except for any such injury to persons or property caused by any willful or negligent act or omission by the Contractor, Subcontractor, their officers, employees, or agents.

## SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR

### 7-1 CONTRACTOR'S EQUIPMENT AND FACILITIES.

**7-1.1 General.** The Contractor shall furnish and maintain in good condition all equipment and facilities as required for the proper execution and inspection of the Work.

The Contractor shall provide and maintain enclosed toilets for the use of employees engaged in the Work. These accommodations shall be maintained in a neat and sanitary condition, and regularly pumped out.

**7-1.2 Temporary Utility Services.** The Contractor shall, at its own expense, make all arrangements necessary for the provision of temporary utility services necessary for its own use during performance of the Work.

The Contractor shall not draw water from any fire hydrant (except to extinguish a fire), without obtaining permission from the water utility owner.

**7-1.3 Crushing and Screening Operations.** Unless otherwise specified in the Special Provisions, the establishment and operation of portable screens and crushers will not be allowed on or adjacent to the Work site.

**7-2 LABOR.**

**7-2.1 General.** Only competent workers shall be employed on the Work. Any person employed who is found to be incompetent, intemperate, troublesome, disorderly, or otherwise objectionable, or who fails or refuses to perform work properly and acceptably, shall be immediately removed from the Work by the Contractor and not be reemployed on the Work.

**7-2.2 Laws.** The Contractor, its agents, and employees shall be bound by and comply with applicable provisions of the Labor Code and Federal, State, and local laws related to labor.

The Contractor shall strictly adhere to the provisions of the Labor Code regarding minimum wages; the 8-hour day and 40-hour week; overtime; Saturday, Sunday, and holiday work; and nondiscrimination because of race, color, national origin, sex, or religion. The Contractor shall forfeit to the Agency the penalties prescribed in the Labor Code for violations.

In accordance with the Labor Code, the Board has on file and will publish a schedule of prevailing wage rates for the types of work to be done under the Contract. The Contractor shall not pay less than these rates.

Each worker shall be paid subsistence and travel as required by the collective bargaining agreements on file with the State of California Department of Industrial Relations.

The Contractor’s attention is directed to Section 1776 of the Labor Code which imposes responsibility upon the Contractor for the maintenance, certification, and availability for inspection of such records for all persons employed by the Contractor or Subcontractor in connection with the ~~project~~ Work. The Contractor shall agree through the Contract to comply with this Section and the remaining provisions of the Labor Code.

**7-3 LIABILITY INSURANCE.** The Contractor shall furnish the Agency a policy or certificate of liability insurance in which the Agency is the named insured or is named as an additional insured with the Contractor. The policy furnished by the Contractor shall be issued by an insurance company authorized by the Insurance Commissioner to transact business in the State of California. The insurance company shall have a policy holder rating of A or higher and a Financial Class VII or higher as established by A.M. Best, or equivalent or greater rating established by another recognized rating entity such as Moody’s. Notwithstanding any inconsistent statement in the policy or any subsequent endorsement, the Agency shall be the insured or named as an additional insured covering the Work, whether liability is attributable to the Contractor or the Agency. The policy shall insure the Agency, its officers, employees, and agents, while acting within the scope of their duties on the Work, against all claims arising out of or in connection with the Work, except as ~~provided~~ otherwise specified in 6-10.

The Contractor may file insurance acceptable to the Agency covering more than one ~~project~~ contract or permit. The coverage shall provide the following minimum limits:

- Bodily Injury..... \$250,000 each person
  - \$500,000 each occurrence
  - \$500,000 aggregate products and completed operations.
- Property Damage ..... \$100,000 each occurrence
  - \$250,000 aggregate.

A combined single limit policy with aggregate limits in the amount of \$1,000,000 will be considered equivalent to the required minimum limits.

Except as provided otherwise specified in 6-10, the Contractor shall save, keep, and hold harmless the Agency, its officers and agents from all damages, costs or expenses in law or equity that may at any time arise or be set up because of damages to property, or of personal injury received by reason of or in the course of performing work, which may be caused by any willful or negligent act or omission by the Contractor, any of the Contractor's employees, or any Subcontractor. The Agency will not be liable for any accident, loss or damage to the Work prior to its completion and acceptance, except as provided otherwise specified in 6-10.

All liability insurance policies shall bear an endorsement or shall have attached a rider whereby it is provided that, in the event of expiration or proposed cancellation of such policies for any reason whatsoever, the Agency shall be notified by registered mail, return receipt requested, giving a sufficient time before the date thereof to comply with any applicable law or statute, but in no event less than 30 days before expiration or cancellation is effective.

The cost of this insurance coverage shall be included in the Contractor's Bid.

**7-4 WORKERS' COMPENSATION INSURANCE.** Before execution of the Contract by the Board, the Contractor shall file with the Engineer the following signed certification:

"I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract."

The Contractor shall also comply with Section 3800 of the Labor Code by securing, paying for, and maintaining in full force and effect for the duration of the Contract, complete Workers' Compensation Insurance, and shall furnish a Certificate of Insurance to the Engineer before execution of the Contract. The Agency, its officers, or employees, will not be responsible for any claims in law or equity occasioned by failure of the Contractor to comply with this paragraph.

All compensation insurance policies shall bear an endorsement or shall have attached a rider whereby it is provided that, in the event of expiration or proposed cancellation of such policies for any reason whatsoever, the Agency shall be notified by registered mail not less than 30 days before expiration or cancellation is effective.

**7-5 PERMITS.** The Agency will obtain, at no cost to the Contractor, all ~~encroachment and building~~ permits necessary to perform Contract the Work in streets, highways, railways or other rights-of-way. The Contractor shall obtain and pay for all costs incurred for permits necessitated by its operations such as, but not limited to, those permits required for night work, overload, blasting, and demolition. For Priate Contracts, the Contractor shall obtain all permits incidental to the Work or made necessary by its operations, and pay all costs incurred by the permit requirements.

The Contractor shall pay all business taxes or license fees that are required for the Work.

**7-6 THE CONTRACTOR'S REPRESENTATIVE.** Before starting the Work, the Contractor shall designate in writing a representative who shall have complete authority to act for it. An alternative representative may be designated as well. The representative or alternate shall be present at the Work site whenever work is in progress or whenever actions of the elements necessitate its presence to take measures necessary to protect the Work, persons, or property. Any order or communication given to this representative shall be deemed delivered to the Contractor. A joint venture shall designate only one representative and alternate. In the absence of the Contractor or its representative, instructions or directions may be given by the Engineer to the superintendent or

person in charge of the specific work to which the order applies. Such order shall be complied with promptly and referred to the Contractor or its representative.

In order to communicate with the Agency, the Contractor's representative, superintendent, or person in charge of specific work shall be able to speak, read, and write the English language.

**7-7 COOPERATION AND COLLATERAL WORK.** The Contractor shall be responsible for ascertaining the nature and extent of any simultaneous, collateral, and essential work by others. The Agency, its workers and contractors and others, shall have the right to operate within or adjacent to the Work site during the performance of such work.

The Agency, the Contractor, and each of such workers, contractors and others, shall coordinate their operations and cooperate to minimize interference.

The Contractor shall include in its Bid all costs involved as a result of coordinating its work with others. The Contractor will not be entitled to additional compensation from the Agency for damages resulting from such simultaneous, collateral, and essential work. If necessary to avoid or minimize such damage or delay, the Contractor shall redeploy its work force to other parts of the Work.

Should the Contractor be delayed by the Agency, and such delay could not have been reasonably foreseen or prevented by the Contractor, the Engineer will determine the extent of the delay, the effect on the ~~project~~ Work, and any extension of time.

#### **7-8 WORK SITE MAINTENANCE.**

**7-8.1 General.** Throughout all phases of construction, including suspension of the Work, and until acceptance per 6-8, the Contractor shall keep the Work site clean and free from rubbish and debris. Rubbish and debris collected on the Work site shall only be stored in roll-off, enclosed containers prior to disposal. Stockpiles of such will not be allowed.

When required by the Special Provisions, the Contractor shall provide a self-loading motorized street sweeper equipped with a functional water spray system. The sweeper shall clean all paved areas within the Work site and all paved haul routes at least once each working day.

The Contractor shall ensure there is no spillage along haul routes. Any such spillage shall be removed immediately and the area cleaned.

Should the Contractor fail to keep the Work site free from rubbish and debris, the Engineer may suspend the Work per 6-3 until the condition is corrected.

**7-8.2 Air Pollution Control.** The Contractor shall not discharge smoke, dust, equipment exhaust, or any other air contaminants into the atmosphere in such quantity as will violate any Federal, State, or local regulations. The Contractor shall also abate dust nuisance by cleaning, sweeping and spraying with water, or other means as necessary. The use of water shall conform to 7-8.6.

**7-8.3 Noise Control.** Noise generated from the Contractor's operations shall be controlled as specified in the Special Provisions.

#### **7-8.4 Storage of Equipment and Materials.**

**7-8.4.1 General.** Materials and equipment shall be removed from the Work site as soon as they are no longer necessary. Before inspection by the Engineer for acceptance, the Work site shall be cleaned of equipment, unused materials, and rubbish so as to present a satisfactory clean and neat appearance.

Excess excavated material shall be removed from the Work site immediately unless otherwise specified in the Special Provisions.

Forms and form lumber shall be removed from the Work site as soon as practicable after stripping.

**7-8.4.2 Storage in Public Streets.** Construction materials and equipment shall not be stored in streets, roads, or highways for more than 5 days after unloading unless otherwise specified in the Special Provisions or approved by the Engineer. All materials or equipment not installed or used in construction within 5 days after unloading shall be stored at a location approved by the Engineer.

Excavated material, except that which is to be used as backfill in the adjacent trench, shall not be stored in public streets unless otherwise specified in the Special Provisions or approved by the Engineer. Immediately after placing backfill, all excess material shall be removed from the Work site.

### **7-8.5 Sanitary Sewers.**

**7-8.5.1 General.** The flow of sewage shall not be interrupted. Should the Contractor disrupt the operation of existing sanitary sewer facilities, or should disruption be necessary for performance of the Work, the Contractor shall bypass the sewage flow around the Work. Sewage shall be conveyed in closed conduits and disposed of in a sanitary sewer system. Sewage shall not be permitted to flow in trenches nor be covered by backfill.

Whenever sewage bypass and pumping is required by the Plans or Specifications, or the Contractor so elects to perform, the Contractor shall submit per 2-5.3 a working drawing conforming to 7-8.5.2 detailing its proposed plan of sewage bypass and pumping.

**7-8.5.2 Sewage Bypass and Pumping Plan.** The plan shall indicate the locations and capacities of all pumps, sumps, suction and discharge lines. Equipment and piping shall be sized to handle the peak flow of the section of sewer line to be bypassed and pumped. Equipment and piping shall conform to 7-10, the Plans, and the Special Provisions. Bypass piping, when crossing areas subject to traffic loads, shall be constructed in trenches with adequate cover and otherwise protected from damage due to traffic. Lay-flat hose or aluminum piping with an adequate casing and/or traffic plates may be allowed if so approved by the Engineer. Bypass pump suction and discharge lines that extend into manholes shall be rigid hose or hard pipe. Lay-flat hose will not be allowed to extend into manholes. The Contractor shall provide a backup bypass pumping system in case of malfunction. The backup bypass system shall provide 100 percent standby capability, and be in place and ready for immediate use. Each standby pump shall be a complete unit with its own suction and discharge piping. In addition to the backup system, the Contractor shall furnish and operate vacuum trucks when required by the Plans or Special Provisions.

**7-8.5.3 Spill Prevention and Emergency Response Plan.** The Contractor shall prepare and submit per 2-5.3 a spill prevention and emergency response plan. The plan shall address implementation of measures to prevent sewage spills, procedures for spill control and containment, notifications, emergency response, cleanup, and spill and discharge reporting.

The plan shall account for all storm drain systems and water courses within the vicinity of the Work which could be affected by a sewage spill. Catch basins that could receive spilled sewage shall be identified. Unless otherwise specified in the Special Provisions, these catch basins shall be sealed prior to operating the bypass and pumping system. The Contractor shall remove all material used to seal the catch basins when the bypass and pumping system operations are complete.

The Contractor shall be fully responsible for containing any sewage spillage, preventing any sewage from reaching a watercourse, recovery and legal disposal of any spilled sewage, any fines or penalties associated with the sewage spill imposed upon by the Agency and/or the Contractor by jurisdictional regulatory agencies. And any other expenses or liabilities related to the sewage spill.

#### **7-8.6 Water Pollution Control.**

**7-8.6.1 General.** The Contractor shall conform to all applicable local, state and Federal regulations and laws pertaining to water pollution control. The Contractor shall conduct and schedule its operation, and follow and implement best management practices in such a manner as to prevent water pollution. The Contractor shall also conform to the following requirements:

- 1) Sediments shall not be discharged to a storm drain system or receiving waters.
- 2) Sediments generated on the Work site shall be contained on the Work site using appropriate BMPs.
- 3) No construction-related materials, waste, spill, or residue shall be discharged from the Work site to streets, drainage facilities, receiving waters, or adjacent property by wind or runoff.
- 4) Non-storm water runoff from equipment, vehicle washing, or any other activity shall be contained within the Work site using appropriate BMPs.
- 5) Erosion shall be prevented. Erosion susceptible slopes shall be covered, planted or otherwise protected in a way that prevents discharge from the Work site.

**7-8.6.2 Best Management Practices (BMPs).** The Contractor shall implement and maintain such BMPs as are relevant to the Work, and are specifically required by the Plans or Special Provisions.

The Contractor shall be responsible throughout the duration of the Contract for installing, constructing, inspecting, maintaining, removing and disposing of BMPs for wind erosion control, tracking control, erosion and sediment control, non-storm water control, and waste management and materials pollution control. Unless otherwise directed by the Engineer, the Contractor shall be responsible for BMP implementation and maintenance throughout any temporary suspension of the Work.

**7-8.6.3 Storm Water Pollution Prevention Plan (SWPPP).** When so specified in the Special Provisions, or if so required by a jurisdictional regulatory agency, the Contractor shall prepare and submit per 2-5.3 a storm water pollution prevention plan. The SWPPP shall conform to the requirements specified in the Special Provisions and those of the jurisdictional regulatory agency. The Notice of Intent will be filed by the Agency.

**7-8.6.4 Dewatering.** Dewatering shall be performed by the Contractor when specifically required by the Plans or Specifications, and as necessary for construction of the Work. Dewatering shall be performed in conformance with all applicable local, state and Federal laws and permits issued by jurisdictional regulatory agencies. Permits necessary for treatment and disposal of accumulated water shall be obtained by the Contractor or the Agency as specified in the Special Provisions. Accumulated water shall be treated prior to disposal if so specified in the Special Provisions or required by permit. The Contractor shall submit a working drawing and related supporting information per 2-5.3 detailing its proposed plan and methodology of dewatering and treatment and disposal of accumulated water.

The plan shall identify the location, type and size of dewatering devices and related equipment, the size and type of materials composing the collection system, the size and type of equipment to be used to retain and, if required, treat accumulated water, and the proposed disposal locations. If the proposed disposal location is a sanitary sewer, the Contractor shall submit to the Engineer written evidence of permission from the owner. If

the proposed disposal location is a storm drain system or receiving body of water, the Contractor shall submit written evidence of permission from the owner of the storm drain system and, if not obtained by the Agency, original signed permits from jurisdictional regulatory agencies or written evidence that such permits are not required.

**7-8.6.5 Payment.** Unless otherwise specified in the Special Provisions, payment for implementation and maintenance of BMPs shall be considered as included in the Contract Unit Price for each item in the Bid.

Payment for dewatering shall be as specified in the Special Provisions.

**7-9 PROTECTION AND RESTORATION OF EXISTING IMPROVEMENTS.** The Contractor shall be responsible for the protection of public and private property adjacent to the Work and shall exercise due caution to avoid damage to such property.

The Contractor shall repair or replace all existing improvements within the right-of-way which are not designated for removal (e.g., curbs, sidewalks, driveways, fences, walls, signs, utility installations, pavement, structures, etc.) which are damaged or removed as a result of its operations. When a portion of a sprinkler system within the right-of-way must be removed, the remaining lines shall be capped. Repairs and replacements shall be at least equal to existing improvements and shall match them in finish and dimension.

Maintenance of street and traffic signal systems that are damaged, temporarily removed or relocated shall be done in conformance with 307-1.5.

Trees, lawns, and shrubbery that are not to be removed shall be protected from damage or injury. If damaged or removed due to Contractor's operations, they shall be restored or replaced in as nearly the original condition and location as is reasonably possible. Lawns shall be reseeded and covered with suitable mulch.

The Contractor shall give reasonable notice to occupants or owners of adjacent property to permit them to salvage or relocate plants, trees, fences, sprinklers, and other improvements, within the right-of-way which are designated for removal and would be destroyed because of the Work.

All costs to the Contractor for protecting, removing, and restoring existing improvements shall be included in the Bid.

#### **7-10 PUBLIC CONVENIENCE AND SAFETY.**

**7-10.1 Traffic and Access.** The Contractor's operations shall cause no unnecessary inconvenience. The access rights of the public shall be considered at all times. Unless otherwise authorized, traffic shall be permitted to pass through the Work, or an approved detour shall be provided.

Safe and adequate pedestrian and vehicular access shall be provided and maintained to: fire hydrants; commercial and industrial establishments; churches, schools and parking lots; service stations and motels; hospitals; police and fire stations; and establishments of similar nature. Access to these facilities shall be continuous and unobstructed unless otherwise approved by the Engineer.

Safe and adequate pedestrian zones and public transportation stops, as well as pedestrian crossings of the Work at intervals not exceeding 300 feet (90 m), shall be maintained unless otherwise approved by the Engineer.

Vehicular access to residential driveways shall be maintained to the property line except when necessary construction precludes such access for reasonable periods of time. If backfill has been completed to the extent that safe access may be provided, and the street is open to local traffic, the Contractor shall immediately clear the street and driveways and provide and maintain access.

The Contractor shall cooperate with the various parties involved in the delivery of mail and the collection and removal of trash and garbage to maintain existing schedules for these services.

Grading operations, roadway excavation and fill construction shall be conducted by the Contractor in a manner to provide a reasonably satisfactory surface for traffic. When rough grading is completed, the roadbed surface shall be brought to a smooth, even condition satisfactory for traffic.

Unless otherwise authorized, work shall be performed in only one-half the roadway at one time. One half shall be kept open and unobstructed until the opposite side is ready for use. If one-half a street only is being improved, the other half shall be conditioned and maintained as a detour.

The Contractor shall include in its Bid all costs for the above requirements.

#### **7-10.2 (Not Used)**

**7-10.3 Street Closures, Detours, Barricades.** The Contractor shall comply with all applicable State, County and City requirements for closure of streets. The Contractor shall provide barriers, guards, lights, signs, temporary bridges, flagpersons, and watchpersons. The Contractor shall be responsible for compliance with additional public safety requirements which may arise. The Contractor shall furnish and install signs and warning devices and promptly remove them upon completion of the Work.

At least 48 hours in advance of closing, partially closing or reopening, and street, alley, or other public thoroughfare, the Contractor shall notify the Police, Fire, Traffic and Engineering Departments, and comply with their requirements. Deviations must first be approved in writing by the Engineer.

The Contractor shall secure approval, in advance, from authorities concerned for the use of any bridges proposed by it for public use. Temporary bridges shall be clearly posted as to load limit, with signs and posting conforming to current requirements covering "signs" as set forth in the Traffic Manual published by the California Department of Transportation. This manual shall also apply to the street closures, barricades, detours, lights, and other safety devices required.

All costs involved shall be included in the Bid.

#### **7-10.4 Safety.**

**7-10.4.1 Safety Orders.** The Contractor shall have at the Work site, copies or suitable extracts of: Construction Safety Orders, Tunnel Safety Orders and General Industry Safety Orders issued by the State Division of Industrial Safety. The Contractor shall comply with the provisions of these and all other applicable laws, ordinances, and regulations.

Before excavating any trench 5 feet (1.5 m) or more in depth, the Contractor shall submit a detailed plan to the Agency showing the design of shoring, bracing, sloping or other provisions to be made for the workers' protection from the hazard of caving ground during the excavation of such trench. If the plan varies from the shoring system standards, the plan shall be prepared by a registered Civil Engineer. No excavation shall start until the Engineer has accepted the plan and the Contractor has obtained a permit from the State Division of Industrial Safety. A copy of the permit shall be submitted to the Engineer.

Payment for performing all work necessary to provide safety measures shall be included in the prices bid for other items of work except where separate bid items for excavation safety are provided, or required by law.

**7-10.4.2 Use of Explosives.** Explosives may be used only when authorized in writing by the Engineer, or as otherwise stated in the Specifications. Explosives shall be handled, used, and stored in accordance with all applicable regulations.

The Engineer's approval of the use of explosives shall not relieve the Contractor from liability for claims caused by blasting operations.

**7-10.4.3 Special Hazardous Substance and Processes.** Materials that contain hazardous substances or mixtures may be required on the Work. A Material Safety Data Sheet as described in Section 5194 of the California Code of Regulations shall be requested by the Contractor from the manufacturer of any hazardous products used.

Material usage shall be accomplished with strict adherence to the California Division of Industrial Safety requirements and all manufacturer warnings and application instructions listed on the Material Safety Data Sheet and on the product container label.

The Contractor shall notify the Engineer if a specified product cannot be used under safe conditions.

**7-10.4.4 Confined Spaces.**

(a) Confined Space Entry Program. The Contractor shall be responsible for implementing, administering and maintaining a confined space entry program (CSEP) in accordance with Section 5156, 5157 and 5158, Title 8, CCR.

Prior to starting the Work, the Contractor shall prepare and submit its comprehensive CSEP to the Engineer. The CSEP shall address all potential physical and environmental hazards and contain procedures for safe entry into confined spaces, including, but not limited to the following:

1. Training of personnel
2. Purging and cleaning the space of materials and residue
3. Potential isolation and control of energy and material inflow
4. Controlled access to the space
5. Atmosphere testing of the space
6. Ventilation of the space
7. Special hazards consideration
8. Personal protective equipment
9. Rescue plan provisions

The Contractor's submittal shall include the names of its personnel, including subcontractor personnel, assigned to the project who will have CSEP responsibilities, their CSEP training, and their specific assignment and responsibility in carrying out the CSEP.

(b) Permit-Required Confined Spaces. Entry into permit-required confined spaces as defined in Section 5157, Title 8, CCR may be required as part of the Work. All manholes, tanks, vaults, pipelines, excavations, or other enclosed or partially enclosed spaces shall be considered permit-required confined spaces until the pre-entry procedures demonstrate otherwise. The Contractor shall implement a permit space program prior to performing any work in a permit-required confined space. A copy of the permit shall be available at all times for review by Contractor and Agency personnel at the Work site.

(c) Payment. Payment for implementing, administering, and providing all equipment and personnel to perform the CSEP shall be included in the bid items for which the CSEP is required.

**7-11 PATENT FEES OR ROYALTIES.** The Contractor shall absorb in its Bid the patent fees or royalties on any patented article or process furnished or used in the Work. The Contractor shall indemnify and hold the Agency harmless from any legal action that may be brought for infringement of patents.

**7-12 ADVERTISING.** The names, addresses and specialties of Contractors, Subcontractors, architects, or engineers may be displayed on removable signs. The size and location shall be subject to the Engineer's approval.

Commercial advertising matter shall not be attached to or painted on the surfaces of buildings, fences, canopies, or barricades.

**7-13 LAWS TO BE OBSERVED.** The Contractor shall keep itself fully informed of State and National laws and County and Municipal ordinances and regulations which in any manner affect those employed in the Work or the materials used in the Work or in any way affect the conduct of the Work. The Contractor shall at all times observe and comply with such laws, ordinances, and regulations.

**7-14 ANTITRUST CLAIMS.** Section 7103.5 of the Public Contract Code provides:

"In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec 15) or Cartwright Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or subcontract. The assignment shall be made and become effective at the time the awarding body tenders final payment to the contractor, without further acknowledgment by the parties."

## SECTION 8 - FACILITIES FOR AGENCY PERSONNEL

**8-1 GENERAL.** All Facilities provided for Agency personnel shall be at suitable locations approved by the Engineer. Such facilities must be in a room, building, or trailer provided for this purpose with acceptable means for locking.

A Class "A" Field Office ~~in accordance with~~ conforming to 8-2.1 shall be provided at any offsite plant facility furnishing pipe subject to Agency inspection during manufacture. A Field Laboratory ~~in accordance with~~ conforming to 8-3.1 shall be provided at any offsite or ~~project~~ Work site plant facility furnishing portland cement concrete or asphalt concrete pavement ~~paving material~~. Any other facilities for Agency personnel shall be provided only when required by the Specifications.

Offices and laboratories at plants may be used concurrently by inspection personnel of other agencies provided such use does not seriously conflict with Agency use. When facilities are shared in this manner, at least one locker provided with a hasp for a padlock must be available for the exclusive use of the Agency ~~inspectors~~. Otherwise any facilities furnished are for the exclusive use of the Agency ~~personnel~~.

All Facilities shall conform to the applicable codes, ordinances, and regulations of the local jurisdiction and of the State of California, and shall conform to current practice. The interior shall be paneled or suitably lined to provide a facility of good appearance.

The Contractor shall provide janitorial and other maintenance services in all types of facilities provided. Such services shall include the supply of the appropriate paper products and dispensers. Trash receptacles shall

be provided and emptied by the Contractor at weekly intervals or sooner as required. The trash shall be removed from the project Work site.

All costs to furnish, maintain, service, and remove the specified facilities at the project Work site shall be included in the price in the Bid for such facilities. If no Bid item is provided in the Proposal, costs shall be included in other Bid items ~~for which bids are entered~~.

The first progress payment will not be approved until all facilities are in place and fully comply with the Specifications.

## 8-2 FIELD OFFICE FACILITIES.

**8-2.1 Class "A" Field Office.** ~~This~~ The office shall have a minimum floor space of 175 ft<sup>2</sup> (16 m<sup>2</sup>) ~~16 m<sup>2</sup> (175 ft<sup>2</sup>)~~, at least one door, and window area of not less than 22 ft<sup>2</sup> (2 m<sup>2</sup>) ~~2 m<sup>2</sup> (22 ft<sup>2</sup>)~~. All doors and windows shall be provided with screens.

Furniture shall be provided as follows: one plan table, one standard 5 feet (1.5 m) 1.5 m (5 feet) long double-pedestal desk with a drawer suitable for holding files, two chairs, one drafting stool, and one plan rack.

Electric power shall be provided to include a minimum of four duplex convenience outlets. The office shall be illuminated at the tables and desk. An outdoor lighting fixture with a 300-watt bulb shall be installed.

Heating and air conditioning of sufficient capacity shall be provided at no expense to the Agency. The Contractor shall provide drinking water within the office and integral sanitary facilities directly adjoining. Sanitary facilities shall include a toilet and wash basin with hot and cold running water.

Extended area, non-coin-operated telephone service shall be provided within the office area. The installation shall include sufficient extension cord to serve the plan table and desk.

**8-2.2 Class "B" Field Office.** ~~This~~ The office shall be the same as class "A" except that integrated sanitary facilities and air conditioning are not required. A chemical toilet facility shall be provided adjacent to the office.

**8-2.3 Class "C" Field Office.** ~~The office shall be of suitable proportions with~~ have a minimum floor space of 120 ft<sup>2</sup> (11 m<sup>2</sup>) ~~11 m<sup>2</sup> (120 ft<sup>2</sup>)~~ of floor area. It shall be equipped with one 3 feet x 5 feet (0.9 x 1.5 m) ~~0.9 by 1.5 m (3 by 5 feet)~~ table, four chairs and one plan rack. It shall be adequately heated, ventilated, and lighted and ~~two~~ 2 duplex convenience outlets shall be provided. Air conditioning, telephones, and sanitary facilities are not required.

## 8-3 FIELD LABORATORIES.

**8-3.1 Offsite at Manufacturing Plant.** Field laboratories shall conform to the requirements for a Class "C" Field Office specified in 8-2.3 except for the following:

1. Telephone service ~~per~~ as specified in 8-2.1.
2. Chair.
3. Work table, 4 feet x 10 feet (1.2 m x 3 m) ~~1.2 by 3.0 m (4 by 10 feet)~~, 3 feet (0.9 m) ~~0.9 m (3 feet)~~ high.
4. Sieves per 203-6.
5. Scales and weights.
6. Burner plate for heating samples.
7. Thermometer, with 200 to 400°F (90 to 260°C) ~~90 to 260°C (200 to 400°F)~~ degree range (asphalt concrete plants only).
8. Air meter for all concrete in accordance with ASTM C 231 of the type that indicates percentage of air directly (precast concrete plants only).

All Sampling and testing equipment shall be maintained in satisfactory operating condition by the Contractor or the plant owner. Laboratories shall be located immediately adjacent to and with full view of batching and loading operations.

**8-3.2 At Project the Work Site.** Field laboratories shall ~~be in accordance with~~ conform to 8-3.1, except that sieves, scales, weights, burner plates, sampling devices, pans, and thermometers will be furnished by the Agency at no expense to the Contractor. If air entraining agents admixtures are being used in the concrete on the project Work, an air meter of the type described specified in 8-3.1 shall be furnished by the Contractor.

**8-4 BATHHOUSE FACILITIES.** When the Plans or Specifications Special Provisions require bathhouse facilities, the following shall be provided:

1. One lavatory with hot and cold water.
2. One toilet in a stall.
3. One 3-foot (1 m) ~~1-m (3 feet)~~ trough-type urinal.
4. One enclosed shower at least 3 feet x 3 feet (1m x 1m) ~~1 by 1 m (3 by 3 feet)~~ with hot and cold water.
5. One bench, 6 feet (2 m) ~~2-m (6 feet)~~ long.
6. Soap dispensers.
7. Toilet paper holders.
8. Paper towel cabinet.
9. Wastepaper receptacle.

These facilities shall be serviced and provided with necessary sanitary supplies.

These facilities shall be for the exclusive use of Agency personnel. However, a separate building need not be provided for this purpose if such facilities are located in a separate room in a building which includes other facilities.

**8-5 REMOVAL OF FACILITIES.** Field offices, laboratories, and bathhouse facilities at the project Work site shall be removed upon completion of the Work. Buildings and equipment furnished by the Contractor at the project Work site under the provisions of this subsection ~~section~~ are shall remain the property of the Contractor.

**8-6 BASIS OF PAYMENT.** All costs incurred in furnishing, maintaining, servicing, and removing field offices laboratories, or bathhouse facilities required at the project Work site shall be included in the Bid item for furnishing such facilities. If such facilities are required by the Plans or Specifications and no Bid item is provided in the Proposal, the costs shall be included in other Bid items ~~for which bids are entered~~. Such costs incurred in connection with offices and laboratories at plants shall be borne by the plant owners.

## SECTION 9 MEASUREMENT AND PAYMENT

### 9-1 MEASUREMENT OF QUANTITIES FOR UNIT PRICE WORK.

**9-1.1 General.** Unless otherwise specified, quantities of work shall be determined from measurements or dimensions in horizontal planes. However, linear quantities of pipe, piling, fencing and timber shall be considered as being the true length measured along longitudinal axis.

Unless otherwise provided in Specifications the Special Provisions, volumetric quantities shall be the product of the mean area of vertical or horizontal sections and the intervening horizontal or vertical dimension. The planimeter shall be considered an instrument of precision adapted to measurement of all areas.

**9-1.2 Methods of Measurement.** Materials and items of work which are to be paid for on basis of measurement shall be measured in accordance with methods stipulated in the particular sections involved.

**9-1.3 Certified Weights.** When payment is to be made on the basis of weight, the weighing shall be done on certified platform scales or, when approved by the Engineer, on a completely automated weighing and recording system. The Contractor shall furnish the Engineer with duplicate licensed weighmaster's certificates showing actual net weights. The Agency will accept the certificates as evidence of weights delivered.

**9-1.4 Units of Measurement.** ~~Measurements shall be in accordance with 1-4.1 and 1-4.2. A metric ton or "tonne" is equal to 1000 kilograms and the unit of liquid measure is a Liter (in U.S. Standard Measures, a pound is an avoirdupois pound; a ton is 2000 pounds avoirdupois; and the unit of liquid measure is a gallon).~~

**9-2 LUMP SUM WORK.** Items for which quantities are indicated "Lump Sum", "~~L.S.~~", "LS", or "Job", shall be paid for at the price indicated in the Bid. Such payment shall be full compensation for the items of work and all work appurtenant thereto.

When required by the Specifications Special Provisions or requested by the Engineer, the Contractor shall submit to the Engineer within 15 days after award of Contract, a detailed schedule in triplicate, to be used only as a basis for determining progress payments on a lump sum contract or designated lump sum Bid item. This schedule shall equal the lump sum Contract Price or Bid item price and shall be in such form and sufficiently detailed as to satisfy the Engineer that it correctly represents a reasonable apportionment of the lump sum.

### **9-3 PAYMENT.**

**9-3.1 General.** The quantities listed in the ~~Bid schedule~~ Proposal will not govern final payment. Payment to the Contractor will be made only for actual quantities of Contract items constructed in accordance with the ~~Plans and Specifications~~ Contract Documents. Upon completion of ~~construction~~ the Work, if the actual quantities show either an increase or decrease from the quantities ~~given~~ in the ~~Bid schedule~~ Proposal, the Contract Unit Prices will prevail ~~subject to the provisions of 3-2.2.1~~ except as otherwise specified in 3-2.2.

The unit and lump sum prices to be paid shall be full compensation for the items of work and all appurtenant work, including furnishing all materials, labor, equipment, tools, and incidentals.

Payment will not be made for materials wasted or disposed of in a manner not called for under the Contract. This includes rejected material not unloaded from vehicles, material rejected after it has been placed, and material placed outside of the Plan lines. No compensation will be allowed for disposing of rejected or excess material.

Payment for work performed or materials furnished under an Assessment Act Contract will be made as provided in particular proceedings or legislative act under which such contract was awarded.

Whenever any portion of the Work is performed by the Agency at the Contractor's request, the cost thereof shall be charged against the Contractor, and may be deducted from any amount due or becoming due from the Agency.

Whenever immediate action is required to prevent injury, death, or property damage, and precautions which are the Contractor's responsibility have not been taken and are not reasonably expected to be taken, the Agency may, after reasonable attempt to notify the Contractor, cause such precautions to be taken and shall charge the cost thereof against the Contractor, or may deduct such cost from any amount due or becoming due

from the Agency. Agency action or inaction under such circumstances shall not be construed as relieving the Contractor or its Surety from liability.

Payment shall not relieve the Contractor from its obligations under the Contract; nor shall such payment be construed to be acceptance of any of the Work. Payment shall not be construed as the transfer of ownership of any equipment or materials to the Agency. Responsibility of ownership shall remain with the Contractor who shall be obligated to store any fully or partially completed work or structure for which payment has been made; or replace any materials or equipment required to be provided under the Contract which may be damaged, lost, stolen or otherwise degraded in any way prior to acceptance of the Work, except as ~~provided~~ otherwise specified in 6-10.

~~Warranty periods shall not be affected by any payment, but shall commence on the date equipment or material is placed into service at the direction of the Agency. In the event such items are not placed into service prior to partial or final acceptance of the project, warranty periods will commence on the date of such acceptance.~~

If, within the time fixed by law, a properly executed notice to stop payment is filed with the Agency, due to the Contractor's failure to pay for labor or materials used in the Work, all money due for such labor or materials will be withheld from payment to the Contractor in accordance with applicable laws.

At the expiration of 35 days from the date of acceptance of the Work by the Board, or as prescribed by law, the amount deducted from the final estimate and retained by the Agency will be paid to the Contractor except such amounts as are required by law to be withheld by properly executed and filed notices to stop payment, or as may be authorized by the Contract to be further retained.

**9-3.2 Partial and Final Payment.** The Engineer will, after award of the Contract, establish a closure date for the purpose of making monthly progress payments. The Contractor may request in writing that such monthly closure date be changed. The Engineer may approve such request when it is compatible with the Agency's payment procedure.

Each month, the Engineer will make an approximate measurement of the work performed to the closure date and as basis for making monthly payments, estimate its value based on Contract Unit Prices or ~~as provided for~~ in accordance with 9-2. When the Work has been satisfactorily completed, the Engineer will determine the quantity of work performed and prepare the final estimate.

From each progress estimate, 10 percent will be deducted and retained by the Agency, and the remainder less the amount of all previous payments will be paid. After 50 percent of the Work has been completed and if progress on the Work is satisfactory, the deduction to be made from remaining progress estimates and from the final estimate may be limited to \$500 or 10 percent of the first half of total Contract amount, whichever is greater.

No progress payment made to the Contractor or its Sureties will constitute a waiver of the liquidated damages ~~under~~ specified in 6-9.

~~As provided in~~ Pursuant to Section 22300 of the ~~California~~ Public Contract Code, the Contractor may substitute securities for any monies withheld by the Agency to ensure performance under the Contract.

**9-3.3 Delivered Materials.** When provided for in the ~~Specifications~~ Special Provisions, and subject to the limitation and conditions therein, the cost of materials and equipment delivered but not incorporated into the Work will be included in the progress estimate.

**9-3.4 Mobilization.** When a Bid item is included in the Proposal ~~form~~ for mobilization and subject to the conditions and limitations in the ~~Specifications~~ Special Provisions, the costs of work in advance of construction operations and not directly attributable to any specific Bid item will be included in the progress estimate. When

no such Bid item is provided, payment for such costs will be considered to be included in the other items of work.